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Tataltepec Chatino Verb Classification and Aspect Morphology

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Report

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Abstract

Tataltepec Chatino Verb Classification and Aspect Morphology

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The verb in a Chatino language bears a value for Aspect (a grammatical category of Zapotecan verbs which indicates a bundle of aspectual and modal features), marked with a prefix, a tonal change, or both. There is a moderate amount of allomorphy among the Aspect prefixes, and when verbs of Tataltepec Chatino are grouped according to in which particular forms a given verb's Aspect prefix appears, generalizations about the verbs can be made. For example, verbs with one set of allomorphs are are generally transitive; verbs with another set are generally intransitive, and so on.

Attempts to meaningfully classify the verbs of contemporary Tataltepec Chatino are complicated by the effects of a few incomplete processes, such as the syncopation of historically disyllabic roots. To overcome this difficulty, a more conservative form of Tataltepec Chatino was constructed from an analysis of the lexical entries of a bilingual dictionary published in 1970 and from my own field notes. This pre-1970 Tataltepec Chatino shows the Aspect prefixes quite clearly and allows for a ready classification of the verbs.

When the verb classes which can be identified for Tataltepec Chatino are compared to those found for other Chatino languages, we can see the development of several subclasses being brought about by various morphophonemic processes, such as the syncopation of Aspect prefix vowels, the deletion of similar consonants, and the merger of coronal and velar stops before laterals.

This verb classification also corroborates those undertaken for Zenzontepec Chatino and the Eastern Chatino of San Marcos Zacatepec, as this verb classification scheme is largely in concord with them or if not, convincing explanations of Tataltepec Chatino's deviance can be found.

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List of Abbreviations

COMPL	Completive Aspect
HAB	Habitual Aspect
NP	Noun Phrase
P&P	Vocabulario Chatino de Tataltepec (Pride and Pride 1970)
PAN	Potential Aspect
PROG	Progressive Aspect
PZP	Proto-Zapotec
SJL	Eastern Chatino of San Juan Lachao
SJQ	Eastern Chatino of San Juan Quiahije
TAT	Tataltepec de Valdés Chatino
TEO	Eastern Chatino of Santa Lucía Teotepec
VHRH	Vowel Hiatus Resolution Hierarchy
YAI	Eastern Chatino of Santiago Yaitepec
ZAC	Eastern Chatino of San Marcos Zacatepec
ZEN	Zenzontepec Chatino

1. AN INTRODUCTION TO CHATINO

Though this work will chiefly focus on the verbs and verb classes of the Tataltepec de Valdés variety[1] (henceforth TAT) of Chatino, much mention will be made of data from other Chatino varieties. The remainder of this section will include a brief introduction to Chatino, including where and by whom it is spoken, the internal structure of the Zapotecan branch of the Otomanguean language family (of which Chatino is a member), the shared structure of the Chatino verb, and a brief review of the phenomenon of monosyllabification which is in evidence in some Chatino varieties but not in others and which will be useful to understand to explain both the somewhat diachronic approach to TAT verb classification used here and to justify the reconstructions outlined throughout.

1.1 Where and by Whom is Chatino Spoken?

Chatino is a group of three emergent languages (Kaufman 2006) consisting of Zenzontepec (ISO 693-3 code czn henceforth ZEN), Tataltepec Chatino (ISO 693-3 cta), and a collection of over ten variants of differing levels of mutual intelligibility somewhat arbitrarily divided into four categories in (ISO 693-3 ctp, cya, ctz, cly), which Campbell (2011*b*), in agreement with Boas (1913), considers a single grouping , and which I will call Eastern Chatino, following Woodbury (2009). The varieties of Eastern Chatino which will be discussed in this paper are the Chatino varieties of San Marcos Zacatepec

[1] 'Variety' will be used to refer to any Chatino topolect, which in the case of TAT and ZEN are the sole representatives of their emergent languages. This nomenclature is chosen to avoid the label 'dialect' which presupposes that Chatino codes will be mutually intelligible, and is pejoratively used to refer to any indigenous speech in Mexican Spanish.

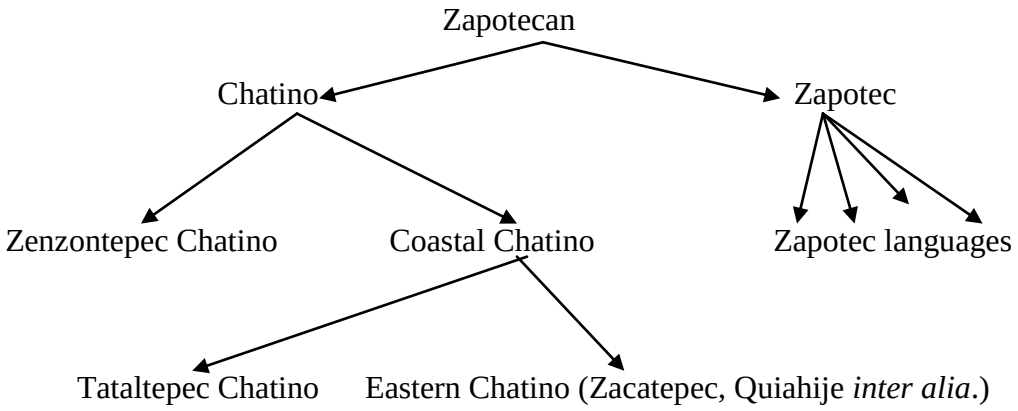
(ZAC), San Juan Quiahije (SJQ), San Juan Lachao (SJL), Santiago Yaitepec (YAI), San Miguel Panixtlahuaca (PAN) and Santa Lucía Teotepec (TEO). Chatino is spoken by some 42,000 persons in the southwestern Juquila and Sola de Vega districts of the Mexican state of Oaxaca (INEGI 2005).

1.2 The Internal Structure of the Zapotecan Family

TAT along with the Eastern Chatino collection of varieties has been shown to form a subgrouping within Chatino to the exclusion of ZEN called Coastal Chatino (Campbell 2011*b*). Figure (1) shows the relevant structure of the Zapotecan language family.

In this paper, a three-letter abbreviation (e.g. TAT, ZEN and ZAC) will refer to the particular variety of the Chatino language spoken in those locales whereas "Chatino" will refer to the language as a whole, "Zapotec" will refer to the grouping of Zapotec languages and "Zapotecan" will refer to Chatino and the Zapotec languages taken together.

Figure 1: Relevant internal structure of the Zapotecan language family (after Campbell 2011*b*).



1.3 The Chatino Verb

Crucial to the following discussion is an understanding of the structure of the Chatino verb. TAT like the rest of Chatino features verbs which always distinguish between four Aspects[2]: Potential, Completive, Progressive and Habitual, which can be indicated by a prefix, a tone change or both (Rasch 2002, Villard 2008, Campbell 2009).

Verbs in Chatino are marked for their subject, which is indicated through one of two strategies. The first is the juxtaposition of the verb and an NP or a person-number clitic[3], and if no overt clitic or NP follows, the subject is interpreted as some third person entity. The second is for the verb stem to be inflected for either the singular first-person or singular second-person subject through a tone change and/ or the addition of nasalization on the final vowel of the verb. In (1), these two strategies are illustrated for TAT.

(1) Base form ngwlu7u
COMPL.show.3
's/he showed it'

Inflection strategy	Juxtaposition strategy	
ngwlu7ú	ngwlu7u	nu7u
COMPL.show.2S	COMPL.show	2S
'you showed it'		

[2] This discipline-specific nomenclature is used for the convenience of other Zapotecan researchers and for continuity with the existing literature. The actual aspectual or modal properties of each class (and how those properties may vary across Chatino) are outside the scope of this paper. To highlight this conventional, non-scientific usage, Aspect and the names of each Aspect will be capitalized when referring to the Aspects as morphological units rather than aspectual or modal properties. Thus, Completive Aspect may encode completive aspect. The Aspect names will be abbreviated POT (Potential), COMPL (Completive) PROG (Progressive) and HAB (Habitual).

[3] While I refer to these accretions as clitics throughout this discussion, I am doing so after other descriptions of Chatino dialects. The morphological status of these pronouns (as clitics, suffixes or free words) is not asserted here, nor is it crucial to the Verb Classification scheme.

ngwlo7ǫ̂	ngwlu7u	naà7
COMPL.show.1S	COMPL.show	1S

'I showed it'

Note that, as was mentioned above, the second-person singular form of the verb has a different tone than the third-person or stem form, and that the first-person form has a different tone and a nasalized vowel (which can also undergo a phonemic change in quality). This pattern is repeated again and again in Chatino, and given that the tone on a cliticized verb stem does not change, this means that each verb stem may have twelve realizations ((1 base form + 2 inflected forms) x 4 Aspects). To illustrate both the full buffet of forms a verb may have, and to highlight the similarity of the paradigm across the Chatino family, the twelve forms of 'give it' are provided for TAT in Table 1, for SJQ in Table 2, and for ZEN in Table 3. The form of the verb occurring with juxtaposed NPs and clitics is considered the basic form (or stem) of the verb.

Table 1: The conjugation of *taà* 'give it' in TAT

person-number	POT	PROG	HAB	COMPL
stem	taà	ndyaă	ndaà	ndaá
2s	taă	ndyaă	ndaă	ndaă
1s	taą̂	ndyaą́	ndaą̂	ndaą́

Table 2: The conjugation of *ta*^{20}'give it' in SJQ

person-number	POT	PROG	HAB	COMPL
stem	ta^{20}	nda^{1}	nda^{20}	nda^{3}
2s	ta^{42}	nda^{42}	nda^{42}	nda^{42}
1s	tą^{4}	ndą^{1}	ndą^{4}	ndą^{4}

(Cruz, Cruz and Woodbury 2010)

Table 3: The conjugation of *tāá* ‘give it‘ in ZEN

person-number	POT	PROG	HAB	COMPL
stem	tāá	ntētāá	ntāá	nkātāá
2s	tāā	ntētāā	ntāā	nkātāā
1s	tāą̌7	ntētāą̌7	ntāą̌7	nkātāą̌7

(Eric Campbell, p.c.)

Note that in each of these paradigms, the only distinction between the base form and the second-person singular is a tone mutation, and the first-person singular has additional nasalization and another (often complex) tone. While the variation seen in Table 1 for TAT may appear to be quite extensive, much of the tonal person-number inflection can be reduced to one of a few patterns which will be explored in Section 4 below, though a fuller and more rigorous description will wait for a future work. The (absence of an) intersection of across-Aspect tone variation and the verb classification schemes will also be discussed in Section 4 below.

Thus the essential features of Chatino verbs necessary to understand the classification schemes discussed in this paper are the presence of four morphologically-encoded Aspects which are represented by the base form of the verb (that which can be juxtaposed to its subject NP or pronoun clitic as was seen in (1) above) which consists of a (possibly zero-marked) Aspect prefix and a lexical tone which may be used to distinguish between different Aspects of a given verb (or in a few circumstances, to distinguish between entirely different verbs which carry different lexical tones as in (2)). Given this, all verb classifications discussed in this paper compare the morphology present on the four Aspect-marked base forms of each verb and make generalizations based upon the Aspect allomorphs used by groups of verbs.

(2)	Aspect	-uná 'cry'	-unà 'listen, hear, understand'
	POT	kunà	kuna
	PROG	ndyună	ndyună
	HAB	ndunà	nduna
	COMPL	ndyuná	ndyunà

1.4 Monosyllabification

When one compares cognate lexemes from across the Chatino varieties, one of the first things one will notice is that some feature monosyllabic words whereas other exhibit polysyllabic words. As Campbell (2011*b*) points out, many Chatino roots were historically disyllabic and the presence or absence of monosyllabified words synchronically is not a genetic feature, as some varieties of the Eastern Chatino language are highly monosyllabified (such as YAI and SJQ) whereas others (such as ZAC) have very few monosyllabified roots. Table 4 gives some words in several Chatino languages. To facilitate comparison of the degree of monosyllabification, syllables are separated by a period. Note the varying degrees of monosyllabification within the Eastern Chatino language. TAT occupies an intermediate stage of this ongoing monosyllabification, with nearly every prefix vowel syncopated (unlike ZAC) but preserving many root vowels (unlike the other Eastern Chatino varieties in Table 4). Section 4.1 outlines the phonological changes resulting from the consonant clusters created by this monosyllabification.

Table 4: Some Words in Several Chatino Languages[4]

		Coastal Chatino					
			Eastern Chatino				
	ZEN	TAT	ZAC	SJL	PAN	YAI	SJQ
Gloss	More syllabically conservative			Mostly conservative		More monosyllabic	
holy	jo.7o	jo.7ò	jo.7o^{XM}	j7o^{34}	jo.7o^{4}	j7o^{23}	7o^{2}
fish	kwe.lā	kwa.lya	kwi.la^{X}	kwi.la^{32}	ku.la^{2}	kwla^{3}	kla^{4}
spider	kwi.yū7	ngwi.yu7	ngwi.yo7^{XM}	ngwi.yu7^{34}	ngwi.yu7^{23}	wyu7^{2}	yu7^{4}
night	te.la	ta.lya	ti.la^{XL}	tla^{424}	tla^{45}	tla^{24}	tla^{14}
chile	jnyá7	knya7	ki.nya7^{XR}	ki.nya7^{45}	ki.nya7^{32}	ki.nya7^{32}	kynya7^{3}
fifteen	---	ti.7yǫ	ti.7nyǫ^{XL}	n.7nyo^{20}	ti.7yų^{32}	ti.7yų^{1}	7nyo^{24}
tree	ya.ka	ya.ka	ya.ka^{X}	yka^{32}	yka^{2}	yka^{3}	yka^{4}
people	nyá.tę̄	nya.tę̀	na.tę^{XL}	ntę^{424}	ntę^{45}	nttę^{24}	ntę^{14}
COMPL. sleep	---	nkjwá7	ya.ja7^{XX}	yja7^{4}	yi.ja7^{32}	---	---
POT.stay	cha.nu	tya.nú	kya.nǫ^{MH}	ki.nǫ^{20}	ki.nų^{32}	---	kno^{1}
PROG. sweep	nte.lū.kwa	nglya.kwă	nda.lo.kwa^{XR}	ndlu.kwa^{3}	ndu.kwaa^{4}	---	ntkwa^{3}
HAB.eat	nta.ku	nda.ku	ngya.ko^{XX}	ntyku^{32}	nchku^{23}	---	ntyku^{4}

[4] Data from this table come from Campbell (2008), Villard (2009; p.c.), Cruz, Cruz and Woodbury (2007;2009), Rasch and Suárez (2008), Pride and Pride (2004) and Sullivant (2010). ZAC tones are indicated by superscript letters reflecting the tone analysis of Campbell and Woodbury (2010): H is high, L is low, M is mid, R is rising and X is underspecified for tone.

2. INTRODUCTION TO TAT

TAT is spoken uniquely in Tataltepec de Valdés, a small town of some 2,186 persons in the Juquila district, which is the seat of a *municipio* (a political division not unlike a township) containing another small town of equivalent size (Santa Cruz Tepenixtlahuaca 2,514 persons) and a handful of other, much smaller settlements totaling a population of 5,377 persons in the *municipio* (INEGI 2005). Local industries include farming maize, beans, coffee and chile, especially the short red *chile costeño*. Much land surrounding the town has in recent memory begun being utilized as cattle pasture, though this industry is chiefly the domain of the non-Chatino *mestizo* population of the community.

TAT is a highly endangered variety. Though official *municipio*-level figures suggest that a maximum of 2,829 persons[5] speak TAT, (INEGI 2009), it is spoken chiefly by persons older than thirty, as younger ethnic Chatinos are choosing to speak only Spanish. I estimate the Chatino-speaking population of Tataltepec to be around 300.

[5] The INEGI data on speakers of indigenous languages are reported by *municipio*. The *municipio* is an administrative unit similar to a county in that it includes the *cabecera* (here the town of Tataltepec de Valdés) as well as smaller settlements called *agencias*. The *municipio* of Tataltepec includes the *agencia* of Santa Cruz Tepenixtlahuaca (pop. 2,514), many of whose residents speak a variety of Eastern Chatino, not Tataltepec Chatino. All Chatino dialects are counted together as "Chatino" in national censuses.

3. TAT PHONOLOGY

3.1 TAT Phonemes

Figure 2: The consonant phonemes of TAT

	Labials	Apical dentals	Laminal alveolars	Palatals	Velars	Labio-velars	Laryngeals
Stops	p	t, d	ty, dy		k, g	kw, gw	7
Affricates		tz	ch				
Fricatives		s	x				j
Tap		r					
Laterals		l	ly				
Nasals	m	n	ny				
Glides				jy, y		w	

Figure 2 shows the consonant phoneme inventory of TAT. There are two series of sounds which are quite important for a study of the verbal systems of TAT: the apical and the laminal series of consonants. The laminal phonemes are the result of a sound change in Chatino where a coronal sound began to be produced with the blade of the tongue before /i/, and now is phonemicized, these sounds allow one to determine that a preceding high front vowel (or in TAT a mid-front vowel as well) existed even in the absence of this vowel in contemporary speech. For example, the laminalization which is seen on many verbs in potential aspect (e.g. ZEN *tyaja* ‘will get holes’) is the legacy of a morpheme **ki-* whose high-front vowel laminalized the stem consonant before both the vowel and the prefix consonant were deleted as in the POT forms of 'laugh' in (3).

(3) ZEN */ki-siti/ ZAC */[LAM]-sityi/
ki-xiti xityi
POT-laugh POT.laugh
'(he/she/it) will laugh'

The actual contrasts between voiceless and voiced stops are very marginally distributed. Stops are voiced when prenasalized except when the stop is followed by another voiceless sound, as in (4). As such, voicing is mostly predictable; however some stops which would be expected to be voiced are consistently pronounced voiceless, such as *santù* ‘doll’ or *ntì7* ‘like’. While the former is a loan word and is arguably not prenasalized ([sɑ̃n.tu]), the latter is a native word and is prenasalized ([ⁿtiʔ]). Given speakers' familiarity with the orthography of Spanish, and to provide a simple way to indicate the voiceless production of stops in words such as *ntì7*, I write the allophonically voiced prenasalized stops as <mb, nd, ndy, ng, ngw>.

(4)	nkchá7	[ⁿkʈʃaʔ]	‘however’
	nkwjyuù	[ⁿkʷɕuː]	‘(he/she/it) pierced it’
	ntka7ą tyja	[ⁿtkɑ̃ʔɑ̃ ʈ̪ha]	‘(he/she/it) makes tortillas’
	ngwlaa	[ⁿgʷlaː]	‘mature’
	ndywì	[ⁿɖ̪wi]	‘lightning struck’

The prenasalized voiceless stops in native words are the result of vowel syncopation. For example, ‘cooked it’ surfaces in two forms currently, *nguké7* and *nké7*. The first form is to be expected from the appending of the prefix *ngu-* to the stem *ake7*, and the second is the result of that first form’s syncopation to */ngke7/, where the voicing of the first velar is blocked by the voicelessness of the second. The pair of consonants is then simplified to one, with the voiceless realization intact (*nké7*), and a voiced-consonant utterance of this word (i.e. *ngé7*) is roundly rejected by speakers. For other verbs however, a doublet exists in which either realization of the stop is acceptable and produced by speakers, such as in ‘it was/became’, which is either *ngwà* or *nkwà* and

is the result of the syncopation of the underlying or historical form **ngukà*, formed by affixing *ngu-* to the stem *akà*[6].

The cluster *jy* is realized as /ɕ/, *7* is used to represent the glottal stop, and *j* is used for the voiceless laryngeal fricative /h/ due to speakers' familiarity with contemporary Spanish orthography where this same letter represents the voiceless velar fricative. In keeping with Mesoamerican linguistic tradition, the symbols *x*, *tz*, and *ch* represent /ʃ/, /ts/, and /tʃ/ respectively.

TAT has a five-vowel system /a e i o u/ in which oral vowels exhibit a contrast between short and long vowels and may be phonemically nasalized[7]. Long vowels are indicated by doubling the vowel (*aa*), and phonemic nasality is indicated in this study by an ogonek (*ą*). Nasalized vowels also undergo a phonetic change in vowel quality (the lowering often associated with nasalization), and all vowels with nasal onsets /m n/ are nasalized (e.g. *ni7i* [nĩʔĩ] 'house'), and as such are not marked with the ogonek[8].

3.2 TAT Syllable Structure

The maximum syllable shape in TAT includes up to three consonants in an onset cluster, plus optionally an initial nasal, a vowel, which may be long, and may be closed by a glottal stop: NCCCV:7. There are many restrictions on exactly which consonants may fill each slot; thus while the maximum syllable may contain three consonants and

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6 This doublet may be the reflexes of two related verbs in ZEN whose COMPL are *nkaā* 'was able to' and *nkukā* 'was' or 'became'. Voicing is entirely predicatable in ZEN, and these verbs would have the phonetic shapes [ⁿga:] and [ⁿguka] respectively.

7 After nasal consonants, this contrast is neutralized and vowels are phonetically nasalized.

8 For some speakers, there may be a merger of *į* and *ę*, and *ǫ* and *ų*, as was reflected in Pride and Pride 1970's treatment of TAT as having a three-way contrast in nasal vowel quality. To my ear, many speakers preserve a five-way contrast in nasalized vowel quality, and I describe a five-way contrast here. A future work will explore the contrasts between nasalized vowels. The analysis on the verb classes in this paper will hold regardless of whether there is a three-way or five-way contrast in nasal vowel quality.

prenasalization, e.g. *mstrù* ‘teacher’, this is a marginal case, and is found chiefly in loan words. In these cases, the prenasalization is clearly bilabial and may be pronounced with a syllabic beat. This syllabicity is apparently subphonemic since tones which have varying shapes for disyllables and monosyllables (Sullivant and Woodbury 2009) feature the monosyllabic shape for these words with these heavy onsets preceded by *m-*. The full extent of the phonotactic restrictions currently in place in TAT is outside the scope of this paper, but will be addressed in full in a future work.

For example, ‘the town center’ is *lkichę* [ɬki.ʧɛ̃], presumably the result of the contraction of the phrase *laja kichę* ‘between the (buildings of the) town’. This word never appears as *lkchę* [ɬkʧɛ̃], and this pronunciation is roundly rejected by speakers, even though the penultimate vowel of the **kichę* ‘town’ is not currently pronounced by speakers who all prefer *kchę*.

3.3 TAT Tonology

TAT, much like other Chatino dialects (Rasch 2002, Cruz and Woodbury 2006, Villard 2008, Campbell 2009, McIntosh 2009), has a system of lexical tone. The number of distinct tones varies from five surface forms in the mora-linked three-tone system of ZEN to up to thirteen stem-linked tones in some varieties of Eastern Chatino; in TAT, five non-derived stem-linked tones may surface: a “relaxed” falling tone (Relaxed), a high rising tone (High), a low rising tone (Low), as well as a rising-falling tone followed by a slow rise (High-Low) and a high tone (High-Relaxed) which occur on a restricted set of word classes. There are three tones which are covertly distinct in that they have different tonomechanic behaviors in TAT (e.g. some Low tone words

participate in sandhi and some do not), bringing the total number of tonemes to eight (Sullivant and Woodbury 2009). Though tone is not found to play a role in the classification system of verbs (Section 4.3.7.3), it is marked throughout this work by a diacritic mark over the final vowel of the word: no mark (a) for the Relaxed tone, an acute accent (á) for the High tone, a grave accent (à) for the Low tone, a circumflex (â) for the High-Low tone, and a caron (ă) for the High-Relaxed tone. The authors also found a covert distinction between sandhi-prone and sandhi-inert tones. For example, some Low tone words participates in sandhi behavior should be marked distinctly from a Low tone word which is sandhi-inert. This lexical distinction is not present in isolation contexts (for example, when a speaker provides the principal parts of a verb during paradigm elicitation) and is under-specified in the current orthography and throughout this work. Further field work will serve to classify each verb according to its tone status. Tone alone is used to distinguish verbs inflected for third- or second-person subjects (it is in this limited sense that tone in Chatino is grammatical) and can be used to distinguish some first-person verbs (4). Verbs inflected for a first-person singular subject always feature a final nasal vowel and (on an apparently sporadic lexical basis) that vowel is often phonemically lowered if it is high in the third- or second-person form. Tone is often used in TAT to discriminate between aspects of some verbs which would otherwise be identical (5). As will be discussed in (Section 1.3), though tone can distinguish between Aspects, the patterns of tone differences and person inflections are not thought to interact with the morphological verb classes to be outlined in (Section 4.3).

(4)

taà	taă	taą̂
POT.give.3	POT.give.2s	POT.give.1s
ngoǫ̀	ngoǫ́	ngoǫ̂
COMPL.throw.3	COMPL.throw.2s	COMPL.throw.1s

(5)

tyatę̀	ndyatę́	ndyatę̌	ndyatę̂
POT.enter	COMPL.enter	PROG.enter	HAB.enter

4. THE TATALTEPEC CHATINO VERB CLASSIFICATION

4.1 Methodology

As was seen in Table 4 in Section 1.4, TAT is a language which is currently undergoing a process of monosyllabification, and this monosyllabification (which consists chiefly of non-final vowel syncopation and the resultant simplification of the resulting consonant clusters) brings about the assimilation or loss of Aspect prefixes, which are the very object of comparison for a Chatino verb classification scheme, this present classification will not attempt to classify the verb morphology as it can be found today, but rather will classify the most conservative form of TAT which can be internally reconstructed. The source materials for this study are my field notes from three visits to Tataltepec de Valdés from June 2009 to August 2010, a bilingual dictionary compiled by the Summer Institute of Linguistics missionaries (and long-time Tataltepec residents) Leslie and Kitty Pride (Pride and Pride 1970), and a recording made by Leslie Pride in the course of his research on tone patterns and sandhi in TAT (Pride 1979; 1984).

Where my 2010 field notes and the 1979 audio recording are able to provide insight into the actual structure of a word, I will provide a reconstruction indicated by an asterisk. For example, Pride and Pride (1970) lists 'gave it' (in the guise of the Spanish preterit *lo dio*) as *ngutaa* with no tone indicated, and Sullivant (2010) lists the same word as *ndaá*. Presuming that the lexical tone of a word will remain unchanged over the intervening years, based on the preservation of tone in the handful of synchronic doublets (e.g. *tyaja ~ tyja* both are non-receptive Relaxed-tone words) I reconstruct **ngutaá* as the Completive Aspect of 'give' and posit a vowel syncopation and consonant cluster

reduction to bring about the contemporary form. When it will be necessary to reconstruct a form which precedes the internal reconstruction of the 1970 forms, it will be indicated by two asterisks (e.g. it would seem that the *ngu-* prefix here corresponds to *nga-* prefixes in other Chatino languages which was eliminated in an analogical leveling in TAT, thus we could reconstruct 'gave it' as ***ngataá*). In the "source" column of the tables in Section 4.3 below, *P&P* will refer to Pride and Pride 1970, *S* will refer to my own field notes, **TAT* will refer to the phonemic representation which I reconstruct for TAT ca. 1970 and ***TAT* will refer to a pre-1970 form which I will reconstruct.

Data taken from Pride and Pride 1970 will be presented in the orthography of that volume, which differs from the practical orthography already presented as follows: lexical tone is only sporadically marked, with an acute accent being used to set aside one member of a minimal pair (cf. the use of a similar diacritic in Spanish to set apart one member of a homophonous pair as with *te* 'you' and *té* 'tea'), phonemic nasalization is indicated by an underlined vowel, /k/, /g/ and /kw/, /gw/ are respectively written as *c, g* and *cu , gu* before consonants, *a, o* and *u* and as *qu, gu* and *qü, gü* before *e* and *i*, after the example of Spanish, and the affricate /ts/ is written *ts*. Pride and Pride analyzed TAT as having a set of five oral vowels but only three nasal vowels (*a̲ i̲ u̲*) whereas I find a five-way contrast in nasal vowel quality currently.

One way in which the analysis of Pride and Pride 1970 is a less than complete source for this kind of verb analysis is the lack of rigor in which the different verbal Aspects are presented. In contrast to their 2004 dictionary of the Eastern Chatino of PAN, usually only three Aspects of a verb are given, POT, COMPL, and what is called

Continuative, after a similar label among Mixtecanists, which may be either the PROG or the HAB of the verb. The aspects are not labeled as such in the body of the dictionary, but each is routinely glossed into a different Spanish tense. POT is glossed as a simple future (*comerá*), the COMPL as a preterite (*comió)* and the Continuative as a simple present (*come*), a form which, of course, encompasses both the progressive and the iterative readings which are the prototypical uses of the PROG and HAB aspects, respectively. For many verbs, tone alone can distinguish between these Aspects, and since four distinct Aspects can be found for these verbs today, I will posit that four Aspects existed in 1970 and either one Aspect was overlooked or that two were conflated.

4.2 Tataltepec Chatino Morphophonemics

The mechanics of consonant cluster reduction in TAT are essential to understanding the resulting surface forms of verbs across aspects, and with the aim of providing as few digressions as possible from the discussion of the verb classification *in se*, the morphophonemic processes which are at play in the verb classification system will be presented and motivated in this section.

Whereas the aspectual morphology of ZEN and ZAC (whose classifications are discussed below in Sections 6.2 and 6.3 are fairly transparent, in that both preserve the vowels of aspectual prefixes and thus allow for a clear classification of verbs according to those affixes, the aspectual morphology of TAT is obscured by:

- the syncopation of all aspectual prefix vowels
- a series of assimilation and deletion rules to reconcile illegal consonant clusters

- a dissimilation of coronal stops before coronal nasals and laterals,
- an ongoing and quite rapid drift towards monosyllabification of disyllabic roots.

This ongoing monosyllabification means that for a given speaker, there are doublets of disyllabic and monosyllabic forms of some verbs (*ndyujwi7 ~ ntyjwi7*[9], 'sell (often, regularly)') (*see* Section 1.4), while for other verb forms, the disyllabic member of the doublet has been lost, rendering the pretonic root vowel irretrievable.

4.2.1 LABIALIZATION OF VELARS.

The syncopation of *u* will bring about a change in articulation in a preceding velar stop. This is very noticeable when the COMPL allomorph *ngu-* attached to consonant-initial stems and when the *ku-* POT prefix is attached to the consonant-initial stems of some verbs (6).

(6) Labialization of velars following *u*-devocalization

a.	*/ngu-laà/	ngw-laà	[ᵑgʷlaː]
	COMPL-release	COMPL-release	
	'(he/she/it) released (it)'.		
b.	*/ku-teę/	kw-teę	[kʷtɛ̃ː]
	POT-haul	POT-haul	
	'(he/she/it) will haul (it)'		

In (6a) we see the *u* of the COMPL prefix syncopate leaving behind its labial features on the velar stop of the prefix. In (6b) 'Will haul (it)' is formed by the addition of a POT Aspect *ku-* prefix to a stem *teę*; this verb would surface as the disyllabic **kuteę* (as its

[9] As discussed in Section 1.3, the voiceless stops are normally voiced when pre-nasalized in TAT. This voicing is blocked when the segment following the stop is voiceless.

cognate in ZEN does) were it not for the syncopation of the penultimate vowel, which along with the labialization of the velar produces *kwteę*.

Labialization of velars is a phenomenon which is visible in TAT, where monosyllabification may be fairly recent, but can be seen in some Eastern Chatino varieties, where the vowel syncopation which feeds the labialization also exists, but where *kw* and *k* may merge in the first slot of a CC onset, eliminating the evidence of a historic *u*. For example, in the completely monosyllabified Eastern Chatino of San Juan Quiahije[10] 'ant' may either be pronounced *kwtye7*^{42} or *ktye7*^{42} (Cruz et al. 2008). This example, in which the syncopated vowel is *i* (cf. ZAC *kwitye7*^{2} and ZEN *kwityē7*). (7) provides other examples of this change in SJQ, with examples from the monosyllabified (but still labialized) Eastern Chatino of San Miguel Panixtlahuaca (PAN).

(7) Examples of kw→k/ #_C in SJQ

gloss	SJQ	PAN
'ant'	ktye7^{42}	kwityee7^{4}
'old'	kla^{4}	kula^{2}
'fish'	kwla^{4} ~ kla4	kula^{2}
'deer'	knya7^{1}	kwinya7^{23}

4.2.2 THE DELETION OF SIMILAR CONSONANTS.

If after a syncopation two adjacent stops share the same place of articulation, then one of these is deleted. For example, in (8a) 'got toasted' is formed by attaching the COMPL prefix *ngu-* to the stem *ki7í*. The underlying form *ngu-ki7í* undergoes prefix vowel syncopation with preservation of the labiality of the vowel to yield **ngwki7í*, which

[10] The practical orthography of SJQ Chatino is identical to that used for ZAC, though there is no *o-u* merger in non-final syllables in SJQ, by virtue of the absence of non-final syllables. Tone classes are indicated by superscript numbers with 0 as highest and 4 as lowest.

includes a forbidden string of stops sharing the velar place of articulation; the second of these is deleted to produce the surface form *ngwi7í.* Example (8b), shows that the offending stops need not be identical. The PROG prefix *ndy-* is added to the stem *takį̌*. The underlying form **ndytakį̌* is simplified by the deletion of the second stop, and the correct form *ndyakį̌* surfaces.

(8) a. */ngu-ki7í/ ngwi7í
COMPL-toast.INTR COMPL.toast.INTR
'(he/she/it) got toasted'

b. */ndy-takį̌/ ndyakį̌
PROG-burn.TR PROG.burn.TR
'(he/she/it) is burning (it)'

4.2.3 DISSIMILATION OF CORONALS BEFORE CORONAL LATERALS AND NASALS

Another phonological process which affects the realization of the Aspect morphemes is that underlying coronal stops are realized as velars before laterals. This affects the Aspect morphemes as the PROG and HAB markers include coronal stops. To illustrate this process, 'is releasing' is formed by adding the PROG prefix *ndy-* to the stem *laă*. The underlying lateral assimilates to the laminal articulation of the stop, and we would expect **ndlyaă* to surface as a result, but the dissimilation causes *nglyaă* to surface instead.

4.2.4 Summary of morphonological rules

A summary of the phonological rules affecting the Aspect morphology of TAT are provided in (9). Steps 1 and 4 which seem to cancel each other out are critically order around the prefix vowel syncopation in Step 3, these three rules then create

labialized velars from those velars preceeding non-surfacing o,u, but will not affect the labiality of velars or labiovelars elsewhere in the language.

(9) 1. Labialization of velars before *o,u*

$C_{[-cont, +velar, -lab]} \rightarrow$ __o,u

2. Laminalization of apicals before *i*

$C_{[-cont, +cor, -lam]} \rightarrow C_{[+lam]}/$ i__

3. Syncopation of prefix vowels

$V_{prefix} \rightarrow Ø$

4. Delabialization before *o,u*

$C_{[-cont, +velar, +lab]} \rightarrow C_{[-lab]}/$__o,u

5. Assimilation of labiality and laminalization similar stops

$C_{[-lab, \alpha place]} \rightarrow C_{[+lab]}/$__$C_{[+lab, \alpha place]}$, $C_{[+lab, \alpha place]}$__

$C_{[-lam, \alpha place]} \rightarrow C_{[+lam]}/$__$C_{[+lam, \alpha place]}$, $C_{[+lam, \alpha place]}$__

6. Deletion of similar stops

$C_1 \rightarrow Ø/$__C_1

7. Dissimilation of coronals

$C_{[+cor, -cont]} \rightarrow C_{[-cor, +velar]}/$__$C_{[+cor, +son]}$

4.3 The Verb Classes of Tataltepec Chatino

4.3.1 The Verb Classes of TAT

Table 5 provides an analysis of the Aspect prefixes of TAT for each verb class I propose. The details of each of the four major classes (divided according to reconstructed POT prefix) and all eleven subclasses (identified for the morphological peculiarities which can often be identified by their phonological shape) will be expanded

upon in the remaining subsections of this section. The notation [lam] indicates a laminalization of the first consonant of the verb stem (if that segment is a candidate for laminalization, that is, if it is a member of the apical series */t d s tz n/*).

Table 5: The Aspect prefixes by Verb Class of *TAT

Class	ku-	Ø		ki-						k-	
Subclass	ku	S	X	ngwi	ki	Kix	K	L	Y	V1	V2
POT	ku-	Ø		ki-	ki- (>[lam])	ki-	ki- (> Ø, ty-)	ki	ki- (<ty-)	k-	
PROG	ndy-										
HAB	nd-								ndy-	ndi-	
COMPL	ngu-		n-	ngwi-	ngu-		n-	ngu-	ndy-	ngu-	ndy-
stem	C	s, x, t	x, jy	C,V	C	x	k, tVk	l	y	V	

The subclasses have been grouped into four major classes, *K- *Ki- *Ku- and Ø- on the basis of the reconstructed POT prefix. Class *K- features only vowel-initial stems whereas the remainder have consonant-initial stems (except for a few exceptional forms in subclass *Ngwi-*). Occasionally, a given root will appear in two different subclasses, for example, the root –alà 'open' appears in subclass S as *salà* 'open it (tr.)' and in subclass Y as *tyalà* 'open (intr.)' . The PROG and HAB prefixes of all classes will turn out to not be crucial to the diagnosis of a verb's class, and ultimately derive from single morphemes in proto-Zapotecan (Kaufman 1993). Furthermore, the COMPL morphology of TAT seems to be undergoing an analogical levelling favoring *ngu-* to other allomorphs, which will be shown in Section 7 to eliminate the distinction in TAT of morphologically distinct classes in ZEN and ZAC. Thus, it is the POT prefix and the phonological shape of the stem which can best predict the morphological class of a verb,

though occasionally, an appeal must be made to the COMPL of a stem, as is the case with subclass *Ngwi-* verbs and the *a*-initial stems of the *K- verbs.

4.3.2 V-INITIAL VERBS

The first major group of verbs in TAT is the set of vowel-initial stems, which is the same set of verbs with **k*- POT prefixes. These stems' POT prefix is the vowelless *k*-, and the root vowel of the stem is never obscured in the POT of these two sets, though the root vowel may be obscured in other Aspects. This set is further divided by COMPL Aspect morphology.

4.3.2.1 Class V1

The first subset of the V-initial stems is V1 which features the COMPL in *ngu-*. Table 6 gives the Aspect Allomorphs for Class V1 and Table 7 provides several examples of the verbs of this class. Most of the stems are *a*-initial, though two *u*-initial stems were found. Semantically, they indicate either changes of state or activities.

Table 6: The Aspect Allomorphs of Class V1.

POT	k-	*k
PROG	ndy-	*ndy
HAB	nd-	*ndi
COMPL	ngu-	*ngu

Table 7: Some examples of Class V1 verbs.

Gloss	Source	Stem	POT	PROG	HAB	COMPL
dance	P&P	ula	cula	ndyula	---	ngula
	*TAT	ula	**k**-ula	**ndy**-ula	**nd**-ulá	**ngu**-la
	**TAT				**ndi**-ulá	**ngu**-ula
be born	P&P	ala	cala	nclya	---	ngula
	*TAT	ala	**k**-alá	**ndy**-lă	**nd**-alá	**ngu**-lá
	**TAT			**ndy**-ală	**ndi**-alá	**ngu**-alá
get wet	P&P	atsa’	catsa’	latsa’	ncha’	ngutsa’
	*TAT	atza7	**k**-atzá7	**l**-atză7	**nch**-à7	**ngu**-tzà7
	**TAT				**ndy**-atzà7	**ngu**-atzà7
die	P&P	aji	caja	ndyiji	---	ngujui
	*TAT	aji	**k**-ajá	**ndy**-ijĭ	**ndi**-ji	**ngu**-jwì
	**TAT				**ndi**-iji	**ngu**-ajwì
explode,	P&P	atsu	catsu	ndyatsu	---	ngutsu
bloom	*TAT	atzu	**k**-atzú	**ndy**-atzŭ	**n**-chú	**ngu**-tzù
	**TAT				**nd**-atzú	**ngu**-atzù
be,	P&P	a	ca	---	nchca	ngua
become,	*TAT	aka	**k**-aka	**l**-aka	**nty**-ka	nkw-a
be able	**TAT				**ndy**-aka	**ngu**-ka
to						
get	P&P	aja	caja	ndyiji	---	ngujui
	*TAT	aja	**k**-aja	**ndy**-iji	**nd**-iji	**ngu**-jwi
	**TAT				**ndi**-iji	**ngu**-ajwi
ripen	P&P	umi	cumi	ndyumi	---	ngumi
	*TAT	umi	**k**-umi	**ndy**-umi	**nd**-umi	**ngu**-mi
	**TAT				**ndi**-umi	**ngu**-umi
rot	P&P	atsu‘	catsu‘	---	---	ngutsu‘
	*TAT	atzu7	**k**-atzu7	**ndy**-atzu7	**nd**-atzu7	**ngu**-tzu7
	**TAT				**ndi**-atzu7	**ngu**-atzu7

4.3.2.2 Class V2

The next group of V-initial verbs is the Class V2 of verbs which are very similar to the Class V1 verbs except that they take the COMPL prefix as *ndy*-, which is the cognate form of the doubly-marked COMPL prefixes of these same verbs (*nka-y*- and *nga-y*-) in ZEN and ZAC, respectively (*see* Sections 6.2 and 6.3) Only one verb seems

to have a *y*- COMPL prefix and therefore must be the lone verb which did not participate in this double-marking in TAT. The stems begin with each vowel of TAT except *i*, which was has been historically deleted in non-final syllables.Table 8 shows the Aspect Allomorphs for Class V2 and Table 9 lists several examples of the Class.

Table 8: Aspect Allomorphs for Class V2

POT	k-	*k
PROG	ndy-	*ndy
HAB	nd-	*ndi
COMPL	ndy-	*ndy

Table 9: Examples of Verbs of Class V2

Gloss	Source	Stem	POT	PROG	HAB	COMPL
fear	P&P	utsi	cutsi	ntyutsi	---	ntyutsi
	*TAT	utzę	**k**-utzę	**ndy**-utzę̌	**nd**-utzę	**ndy**-utzę́
	*TAT				**ndi**-utzę	
warn	P&P	acha’	cacha’	ndacha’	---	ndacha’
	*TAT	acha7	**k**-achà7	**nd**-achà7	**nd**-acha7	**nd**-achá7
	**TAT	echa7		**ndy**-echà7	**ndi**-echa7	**ndy**-echá7
drink	P&P	o’o	co’o	ndyi’o	ndyi’u	ndyi’u
	*TAT	o7o	**k**-o7o	**ndy**-i7ò	**ndy**-i7u	**ndy**-i7ù
hear	P&P	una	cuna	ndyuna	---	---
	*TAT	una	**k**-una	**ndy**-ună	**nd**-una	**ndy**-unà
	**TAT				**ndi**-una	
kill	P&P	ujui	cujui	ndyujui	---	---
	*TAT	ujwi	**k**-ujwi	**ndy**-ujwĭ	**nt**-jwi	**nty**-jwì
	**TAT				**ndi**-ujwi	**ndy**-ujwi
grind	P&P	oo	coo	ndyoo	---	ndyoo
	*TAT	oo	**k**-oò	**ndy**-oò	**ndy**-iyu	**ndy**-oò
rot	P&P	acui	cacui	---	---	ndyacui
	*TAT	akwi	**k**-akwí	**ndy**-akwĭ	**nt**-kwí	**ndy**-akwi
	**TAT				**ndi**-akwí	
sell	P&P	ujui’	cujui’	ndyujui’	---	---
	*TAT	ujwi7	**k**-ujwi7	**ndy**-ujwĭ7	**nd**-ujwi7	**ndy**-ujwì7
	**TAT				**ndi**-ujwi7	

Table 9 continued

sow	P&P	ata	cata	---	---	ndyata
	*TAT	ata	**k**-ata	**ndy**-ata	**nd**-ata	**ndy**-ata
	**TAT				**ndi**-ata	
dress	P&P	acu’	cacu’	nchcu’	ndacu’	ndyacu’
	*TAT	aku7	**k**-aku7	**nty**-kŭ7	**nd**-akú7	**ndy**-akù7
	**TAT			**ndy**-akŭ7	**ndi**-akú7	
bathe	P&P	ata	cata	ndyata	ntya	ndyata
	*TAT	ata	**k**-ata	**ndy**-ata	**n**-tya	**ndy**-ata
	**TAT				**ndi**-ata	
eat	P&P	acu	cacu	ndyacu	ndacu	ndyacu
	*TAT	aku	**k**-aku	**ndy**-akŭ	**nd**-aku	**ndy**-aku
	**TAT				**ndi**-aku	
decorate	P&P	alya’	calya’	ndalya’	---	ndalya’
	*TAT	alya7	**k**-alya7	**nd**-alya7	**nd**-alya7	**nd**-alya7
	**TAT	elya7		**ndy**-elya7	**ndi**-elya7	**ndy**-elya7

4.3.3 *KI-POT VERBS

The remainder of the verbs stems are consonant-initial in TAT, and for many verbs, their phonological shape will indicate which set of Aspect prefixes they will take, though in a few cases, the morphology of some classes must be specified

4.3.3.1 Class Y

A rather large and morphlogically uniform set of verbs is found among the stems beginning in *y,* which without exception belong to Class Y. Class Y verbs are so called because every Aspect of this class features a laminal stem consonant. Though the palatal glide I reconstruct these stems with does not surface today, it is required to trigger the morphophonological changes which create the Aspect prefixes of this class, (and in ZEN and ZAC, where the *y*- surfaces in some Aspects (Sections 6.2 and 6.3) and Campbell analyzes it to be an intransitivizer of ambitransitive verb roots) .

Table 10 provides the surface allomorphs of Class Y and Table 11 offers several examples of verbs of this class. As will be seen in Section 6 below, the *y* is treated as

part of the stem of Class Y verbs in, though in TAT, there is little synchronic evidence for the phoneme *y* but it is included here to indicate the laminaliztion of the preceding prefix consonant. Additionally, as seen in the internally-reconstructed Aspect prefixes for this class in Table 10, the historic prefixes for this class could be prefixes which are found elsewhere in the verb system, and the vowels of these prefixes syncopated, leaving behind, in the case of the POT and the COMPL historic **ky* and **ngy* sequences which unconditionally[11] became laminalized stops in TAT (cf. TAT *tyaja* 'tortilla' and ZAC *kyaja*^{XX} 'tortilla').

Table 10: Surface Allomorphs of Class Y

POT	[-cont]	**k- or **ki-
PROG	n- [-cont]	**ndy-
HAB	n- [-cont]	**ndi-
COMPL	n- [-cont]	**ngu- or **ndy-

Table 11: Some examples of Verbs of Class Y

Gloss	Source	Stem	POT	PROG	HAB	COMPL
be finished	P&P	yee	tyee	ndyee	ndyee	ndyee
	*TAT	y-ee	**ty**eè	**ndy**ee	**ndy**eè	**ndy**eè
get tied up	P&P	yaca‘	tyaca‘	ndyaca‘	ndyaca‘	ndyaca‘
	*TAT	y-akạ7	**ty**akà̱7	**ndy**akă̱7	**ndy**akà̱7	**ndy**aká̱7
fall down	P&P	yalu	tyalu	ndyalú	ndyalu	---
	*TAT	y-alu	**ty**alu	**ndy**alú	**ndy**alu	**ndy**alu
get closed	P&P	yacu‘	tyacu‘	ndyacu‘	ndyacu‘	---
	*TAT	y-akọ7	**ty**akò̱7	**ndy**akŏ̱7	**ndy**akọ7	**ndy**akọ7
be made	P&P	yaa‘	tyaa‘	ndyaa‘	---	ndyaa‘
	*TAT	y-aa7	**ty**aà7	**ndy**aa7	**ndy**aa7	**ndy**aà7
get opened	P&P	yala	tyala	ndyala	ndyala	ndyala
	*TAT	y-ala	**ty**alà	**ndy**ală	**ndy**alà	**ndy**alà

[11] A few *ky* sequences can be found in TAT, as in *kya7* 'foot'. Though there is no good analysis of their exceptionality in TAT, it bears mentioning that a small set of words (including 'foot') in ZEN likewise exhibit *ky* where *ch*, the expected reflex of this historic cluster would be expected.

Table 11 continued

return	P&P	yaa	tyaa	ndyaa	---	ndyaa
	*TAT	y-aa	**ty**aa	**ndy**aa	**ndy**aa	**ndy**aa
jump	P&P	yacua<u>a</u>	tyacua<u>a</u>	ndyacua<u>a</u>	---	ndyacua<u>a</u>
	*TAT	y-akwaą	**ty**akwaą	**ndy**akwaą	**ndy**akwaą	**ndy**akwaą
arrive	P&P	yala	tyala	ndyala	ndyala	ndyala
	*TAT	y-ala	**ty**ala	**ndy**alà	**ndy**alà	**ndy**alà
burn	P&P	yaqu<u>i</u>	tyaqu<u>i</u>	ndyaqu<u>i</u>	---	ndyaqu<u>i</u>
	*TAT	y-akį	**ty**akį	**ndy**akį	**ndy**akį	**ndy**akį
be saved	P&P	yucoʻo	tyucoʻo	ndyucoʻo	---	---
	*TAT	y-uko7o	**ty**uko7o	**ndy**uko7o	**ndy**uko7o	**ndy**uko7o
be put out	P&P	yubiʻ	tyubiʻ	ndyubiʻ	---	ndyubiʻ
	*TAT	y-uwi7	**ty**uwi7	**ndy**uwi7	**ndy**uwi7	**ndy**uwi7
appear	P&P	yucua	tyucua	ndyucua	---	ndyucua
	*TAT	y-ukwa	**ty**ukwa	**ndy**ukwa	**ndy**ukwa	**ndy**ukwa
go up	P&P	yacu<u>i</u>	tyacu<u>i</u>	ndyacu<u>i</u>	---	ndyacu<u>i</u>
	*TAT	y-akwį	**ty**akwį	**ndy**akwį	**ndy**akwį	**ndy**akwį
cook	P&P	yaqueʻ	tyaqueʻ	---	---	ndyaqueʻ
	*TAT	y-ake7	**ty**ake7	**ndy**ake7	**ndy**ake7	**ndy**ake7
grow	P&P	yaluu	tyaluu	ndyaluu	---	ndyaluu
	*TAT	y-aluu	**ty**aluu	**ndy**aluu	**ndy**aluu	**ndy**aluu
say	P&P	ycuiʻ	tycuiʻ	ntycuiʻ	---	ntycuiʻ
	*TAT	y-kwi7	**ty**kwi7	**nty**kwi7	**nty**kwi7	**nty**kwi7
	**TAT	y-Vkwi7	**ty**ukwi7	**ndy**ukwi7	**ndy**ukwi7	**ndy**ukwi7
dissolve	P&P	yala	tyala	ndyala	---	ndyala
	*TAT	y-ala	**ty**ala	**ndy**ala	**ndy**ala	**ndy**ala
get folded	P&P	yaqui	tyaqui	ndyaqui	---	ndyaqui
	*TAT	y-aki	**ty**aki	**ndy**aki	**ndy**aki	**ndy**aki
be buried	P&P	yatsiʻ	tyatsiʻ	ndyatsiʻ	---	---
	*TAT	y-atzi7	**ty**atzi7	**ndy**atzi7	**ndy**atzi7	**ndy**atzi7
enter	P&P	yat<u>i</u>	tyat<u>i</u>	ndyat<u>i</u>	---	ndyat<u>i</u>
	*TAT	y-atę	**ty**atę	**ndy**atę	**ndy**atę	**ndy**atę
smell	P&P	yucu<u>i</u>ʻ	tyucu<u>i</u>ʻ	ndyucu<u>i</u>ʻ	---	ndyucu<u>i</u>ʻ
	*TAT	y-ukwę7	**ty**ukwę7	**ndy**ukwę7	**ndy**ukwę7	**ndy**ukwę7
remain	P&P	yanu	tyanu	ndyanu	---	ndyanu
	*TAT	y-anu	**ty**anu	**ndy**anu	**ndy**anu	**ndy**anu
be scorched	P&P	yumiʻ	tyumiʻ	---	---	ndyumiʻ
	*TAT	y-umi7	**ty**umi7	**ndy**umi7	**ndy**umi7	**ndy**umi7
withdraw	P&P	yatsuʻ	tyatsuʻ	ndyatsuʻ	---	ndyatsuʻ
	*TAT	y-atzu7	**ty**atzu7	**ndy**atzu7	**ndy**atzu7	**ndy**atzu7

Table 11 continued

be sown	P&P	yata	tyata	---	---	ndyata
	*TAT	y-ata	**ty**ata	**ndy**ata	**ndy**ata	**ndy**ata
get covered	P&P	yacu‘	tyacu‘	ndyacu‘	---	ndyacu‘
	*TAT	y-akǫ7	**tya**kǫ7	**ndy**akǫ7	**ndy**akǫ7	**ndy**akǫ7
get dressed	P&P	yacu‘	tyacu‘	---	---	ndyacu‘
	*TAT	y-aku7	**ty**aku7	**ndy**aku7	**ndy**aku7	**ndy**aku7

4.3.3.2 Class Ki

Class Ki- proper is distinguished from Class Ku- below (Section 4.3.5) by indicating the POT Aspect by laminalization of the stem consonant (a residue of the historic **ki-* prefix for which the class is named), which is always a coronal obstruent (*s, t, tz*). Table 12 gives the Aspect prefixes and Table 13 gives several examples of this class.

Table 12: The Surface Aspect Allomorphs of Class Ki-

POT	[lam]	*ki-
PROG	n [lam]	*ndy-
HAB	n	*nd
COMPL	ngu	*ngu-

Table 13: Some Examples of Class Ki- Verbs

Gloss	Source	Stem	POT	PROG	HAB	COMPL
go around	P&P	ta‘a	tya‘a	ndya‘a	---	nguta‘a
	*TAT	ta7ą	**ty**-a7ą	**ndy**-a7ą̌	**n-d**a7ą	**ngu**-ta7ą́
	**TAT		**ki**-ta7ą	**ndy**-ta7ą̌	**nd**-ta7ą	
run	P&P	sna	xna	nxna	---	ngusna
	*TAT	sna	**x**-nà	**n**-xná	**ni**-snà	**ngu**-sná
	**TAT		**ki**-snà	**ndy**-sná	**nd**-snà	
laugh	P&P	sti	xtyi	nxtyi	---	ngusti
	*TAT	sti	**x**-tyì	**n**-xtyí	**n**-styì	**ngu**-stí
	**TAT		**ki**-styì	**ndy**-styí	**nd**-styì	

Table 13 continued

see	P&P	na‘a	ña‘a	---	na‘a	na‘a
	*TAT	na7a	nya7a	nya7a	na7a	na7à
	**TAT		**ki**-na7a	**ndy**-na7a	**nd**-na7a	**ngu**-na7a
cough	P&P	tuu‘	tyuu‘	ndyuu‘	---	---
	*TAT	tuu7	tyuù7	**n**-dyuú7	**n**-duù7	**ngu**-tuù7
	**TAT		**ki**-tuu7	**ndy**-tuú7	**nd**-tuù7	
lie down	P&P	sti	xtyi	nxtyi	---	ngusti
	*TAT	sti	xtyi	**n**-xtyĭ	**n**-styi	**ngu**-sti
	**TAT		**ki**-sti	**ndy**-styĭ	**nd**-styi	
say	P&P	nacui	ñacui	---	nacui	nacui
	*TAT	nakwę	nyakwę	nyakwę	nakwę	nakwę
	**TAT		**ki**-nakwę	**ndy**-nakwę	**nd**-nakwę	**ngu**-nakwę
chill	P&P	tala‘	tyalaa‘	ndyalaa‘	---	ngualaa‘
	*TAT	tala7	tyala7	n-dyală7	n-dala7	ngwala7
	**TAT		**ki**-tala7	**ndy**-tală7	**nd**-tala7	**ngu**-tala7
be carried	P&P	tii	tyii	ntyii	---	ngutii
	*TAT	teę	tyeę	**n**-tyeę	**n**-teę	**ngu**-teę
	**TAT		**ki**-teę	**ndy**-teę	**nd**-teę	
hang	P&P	tacui	tyacui	ndyacui	---	---
	*TAT	takwi	tyakwi	**n**-dyakwi	**n**-dakwi	**ngu**-takwi
	**TAT		**ki**-takwi	**ndy**-takwi	**nd**-takwi	
know	P&P	tuloo	tyuloo	ndyuloo	---	---
	*TAT	tuloo	tyuloo	**n**-dyuloo	**n**-duloo	**ngu**-tuloo
	**TAT		**ki**-tuloo	**ndy**-tuloo	**nd**-tuloo	
grab it	P&P	sñi	xñi	nxñi	---	ngusñi
	*TAT	snyii	**x**-nyií	**nx**-nyiĭ	**n**-snyí	**ngu**-snyí
	**TAT		**ki**-snyii	**ndy**-snyiĭ	**nd**-snyí	
help	P&P	styucua	xtyucua	nxtyucua	---	ngustyucua
	*TAT	styukwa	**x**-tyukwà	**nx**-tyukwá	**n**-styukwa	**ngu**-styukwá
	**TAT		**ki**-styukwà	**ndy**-styukwá	**nd**-styukwa	
cut it	P&P	si’yu	xi'yu	nxi'yu	---	ngusi'yu
	*TAT	si7yu	**x**-i7yù	**nx**-i7yú	**n**-si7yù	**ngu**-si7yú
	**TAT		**ki**-si7yù	**ndy**-si7yú	**nd**-si7yù	
split it	P&P	sa’be	xa’be	nxa’be	---	ngusa’be
	*TAT	sa7we	**x**-a7we	**nx**-a7wĕ	**n**-sa7we	**ngu**-sa7we
	**TAT		**ki**-sa7we	**ndy**-sa7wĕ	**nd**-sa7we	

Table 13 continued

scream	P&P	si'ya	xi'ya	nxi'ya	---	ngusi'ya
	*TAT	si7ya	**x**-i7ya	**nx**-i7yǎ	**n**-si7ya	**ngu**-si7ya
	**TAT		**ki**-si7ya	**ndy**-si7yǎ	**nd**-si7ya	
chill it	P&P	salaa'	xalaa'	nxalaa7	---	---
	*TAT	sala7	**x**-ala7	**nx**-alǎ7	**n**-sala7	**ngu**-salà7
			ki-sala7	**ndy**-salǎ7	**nd**-sala7	
change	P&P	tsa'a	cha'a	ncha'a	ntsa'a	ngutsa'a
	*TAT	tza7ą	**ch**-a7ą	**nch**-a7ą̌	**n**-tza7ą̀	**ngu**-tza7ą̀
	**TAT		**ki**-tza7ą	**ndy**-tza7ą̌	**nd**-tza7ą̀	
go out	P&P	tu'u	tyu'u	ndyu'u	ndu'u	ngutu'u
	*TAT	tu7u	**ty**-u7ù	**ndy**-u7u	**n**-du7u	**ngu**-tu7ú
	**TAT		**ki**-tu7ù	**ndy**-tu7u	**nd**-tu7u	
stand	P&P	tuu	tyuu	---	nduu	ngutuu
	*TAT	toǫ	**ty**-oǫ̀	**ndy**-oǫ́	**n**-doǫ̀	**ngu**-toǫ̀
	**TAT		**ki**-toǫ̀	**ndy**-toǫ́	**nd**-toǫ̀	
add to it	P&P	su'ba	xu'ba	nxu'ba	---	ngusu'ba
	*TAT	su7wa	**x**-u7wa	**nx**-u7wǎ	**n**-su7wà	**ngu**-su7wa
	**TAT		**ki**-su7wa	**ndy**-su7wǎ	**nd**-su7wà	
turn it off	P&P	suwi7	xubi'	nxubi'	---	ngusubi'
	*TAT	suwi7	**x**-uwi7	**nx**-uwì7	**n**-suwi7	**ngu**-suwi7
	**TAT		**ki**-suwi7	**ndy**-suwi7	**nd**-suwi7	
loosen it	P&P	satį'	xatį'	nxatį'	---	---
	*TAT	satį7	**x**-atį7	**nx**-atį7	**n**-satį7	**ngu**-satį7
	**TAT		**ki**-satį7	**ndy**-xatį7	**nd**-satį7	
add it	P&P	tu'u	tyu'u	ndyu'u	---	ngutu'u
	*TAT	tu7u	**ty**-u7u	**ndy**-u7u	**n**-du7u	**ngu**-tu7u
	**TAT		**ki**-tu7u	**ndy**-tu7u	**nd**-tu7u	
scorch it	P&P	tsumi'	chumi'	---	ntsumi'	---
	*TAT	tzumi7	**ch**-umi7	**nch**-umi7	**n**-tzumi7	**ngu**-tzumi7
	**TAT		**ki**-tzumi7	**ndy**-tzumi7	**nd**-tzumi7	
be seated	P&P	tucua	tyucua	ndyucua	nducua	ngutucua
	*TAT	tukwa	**ty**-ukwa	**ndy**-ukwa	**nd**-ukwa	**ngu**-tukwa
	**TAT		**ki**-tukwa	**ndy**-tukwa	**nd**-tukwa	

4.3.3.3 Class Kix

One small set of stems preserve the ki- POT prefix, and these are the *x*-initial verbs of subclass Kix. Also included is *nu7u* 'be harmed', which exceptionally takes the

same set of Aspect prefixes as the *x*-initial verbs of this subclass. Table 14 provides the Aspect allomorphs for this class and Table 15 provides the few examples of this verb class.

Table 14: Aspect Allomorphs of Subclass Kix

POT	ki-	*ki-
PROG	n [lam]	*ndy-
HAB	n	*nd
COMPL	ngu	*ngu-

Table 15: Some examples of subclass Kix verbs

Gloss	Source	Stem	POT	PROG	HAB	COMPL
dawn	P&P	xee	quixee	---	---	nguxee
	*TAT	xee	**ki**-xee	**n**-xee	**n**-xee	**ngu**-xee
	**TAT			**ndy**-xee	**nd**-xee	
shake	P&P	xaa‘	quixaa‘	nxaa‘	---	nguxaa‘
	*TAT	xaa7	**ki**-xaa7	**n**-xaa7	**n**-xaa7	**ngu**-xaa7
	**TAT			**ndy**-xaa7	**nd**-xaa7	
be harmed	P&P	nu‘u	quiñu‘u	---	ndunu‘u	ngunu‘u
	*TAT	nu7u	kinyu7u	nyu7u	**ndu**-nu7u	**ngu**-nu7u
	**TAT		**ki**-nu7u	**ndy**-nu7u		
lift	P&P	xicua<u>a</u>	quixcua<u>a</u>	---	---	nguxicua<u>a</u>
	*TAT	xikwaą	**ki**-xikwaą	**n**-xikwaą	**n**-xikwaą	**ngu**-xikwaą
	**TAT			**ndy**-xikwaą	**nd**-xikwaą	

4.3.3.4 Subclass *Ngwi-*

Subclass *Ngwi-* is distinguished from the other Class *Ki- verbs by its indication of the COMPL by an *ngwi-* prefix. Some of the verbs in this class are vowel-initial, which would lead one to think they should belong to the Vowel-initial *K- verbs in Section 4.3.2; however, the stem vowel may be obscured by the prefix vowel (which is

why the POT is reconstructed as *ki*- not like the V-set's *k*-). Furthermore, there is evidence from ZEN that many of these forms may reflexes of compound verbs in the mother language, and as such, one irregular vowel-initial *ngwi*-set verb has spawned many more *ngwi*-set verbs via compounding.

Table 16 shows the surface Aspect allomorphs of Class *ngwi* and Table 17 provides some examples of this class. The **e* of 'go down' and 'make noise' are posited to use the VHRH (a pseudo-synchronic representation of historical vowel deletions which is discussed at length in Section 4.3.6) to account for the failure of *i* to surface instead of *a* in the POT and the COMPL forms. Though synchronically mid vowels in non-final syllables are rare in TAT, these mid vowels are found in the cognates of these verbs in ZEN, which does not share the non-final vowel neutralization of TAT.

Table 16: Surface Aspect Allomorphs of Class *Ngwi* Verbs

POT	ki	*ki-
PROG	n [lam]	*ndy-
HAB	n	*nd-
COMPL	ngwi	*ngwi-

Table 17: Some Examples of Verbs of Class *Ngwi*

Gloss	Source	Stem	POT	PROG	HAB	COMPL
pierce it	P&P	jyu	quijyu	---	ndijyu	nguijyu
	*TAT	jyu	**ki**-jyù	**nty**-jyú	**ndi**-jyù	**ngwi**-jyú
buy it	P&P	i'ya	cui'ya	ndyi'ya	---	ngüi'ya
	*TAT	i7ya	**kw**-i7yà	**ndy**-i7yá	**ndi**-7yà	**ngwi**-7yá
go down	P&P	a'ya	ca'ya	nda'ya	---	ngua'ya
	*TAT	a7ya	**k**-a7ya	**nd**-a7yă	**nd**-a7ya	**ngw**-a7yà
	**TAT	e7ya	**ki**-e7ya	**ndy**-e7yă	**ndi**-e7ya	**ngwi**-e7yà
play	P&P	jya	quijya	---	ndijya	ngüijya
	*TAT	jya	**ki**-jya	**nty**-jya	**ndi**-jya	**ngwi**-jya

Table 17 continued

break	P&P	tza	quiche	ncha	---	ngüicha
	*TAT	tza	**ki**-cha	**n**-cha	**n**-tza	**ngwi**-cha
	**TAT			**ndy**-tza	**nd**-tza	**ngwi**-tza
strike	P&P	ji'i	quiji'i	---	---	ngüiji'i
	*TAT	ji7į	**ki**-ji7į	**nty**-ji7į	**nt**-ji7į	**ngwi**-ji7į
get stuck	P&P	lu'u	quilyu'u	nclyu'u	---	ngüilyu'u
in mud	*TAT	lu7u	**ki**-lyu7u	**ng**-lyu7u	**ng**-lu7u	**ngwi**-lyu7u
	**TAT		**ki**-lu7u	**ndy**-lu7u	**nd**-lu7u	**ngwi**-lu7u
take	P&P	i'ya	cui'ya	ndyi'ya	---	ngüi'ya
away	*TAT	i7ya	**kw**-i7ya	**ndy**-i7ya	**nd**-i7ya	**ngwi**-7ya
suck	P&P	ati'	cati'	ndyati'	ntyi'	ngüityi'
	*TAT	ati7	**k**-ati7	**ndy**-ati7	**n**-tyi7	**ngwi**-tyi7
	**TAT				**ndy**-ati7	**ngwi**-ti7
wet it	P&P	atsa'	cha'	ncha'	---	ngüicha'
	*TAT	atza7	cha7	**n**-cha7	**n**-cha7	**ngwi**-cha7
	**TAT		**ki**-cha7	**ndy**-tza7	**ndy**-tza7	**ngwi**-tza7
shave	P&P	la	klya	nclya	---	ngüilya
	*TAT	la	**k**-lya	**ng**-lya	**ng**-lya	**ngwi**-lya
	**TAT		**ki**-la	**ndy**-la	**nd**-la	**ngwi**-la
make	P&P	añi	cañi	---	ndañi	nguañi
noise	*TAT	anyi	**k**-anyi	**nd**-anyĭ	**nd**-anyi	ngw-anyì
	**TAT	enyi	**ki**-enyi	**ndy**-enyĭ	**ndi**-enyi	**ngwi**-enyì

4.3.3.5 Class L

Class L is a fairly small class which consists of *l*-initial *Ki- verbs whose lateral stem consonant interacted with the historic dental consonants of the PROG and HAB Aspect prefixes. These stems are distinct from the *l*-initial stems in the **Ku*-set since the POT of these verbs feature a trace of a high-front vowel, not a high-back vowel. The verbs of source S show laminalization in some (but not all) of the HAB forms of these verbs in contemporary TAT. I judge this to be a segmental levelling of the two Aspects for this class, and I reconstruct apical HAB forms for ca. 1970 TAT. Table 18 shows the surface allomorphs of Class L and Table 19 provides the few examples of Class L found in the corpus.

Table 18: Surface Allomorphs of Class L

POT	ki-	*ki-
PROG	ng-[lam]	*ndy-
HAB	ng-	*nd-
COMPL	ngu-	*ngu-

Table 19: Class L Verbs

Gloss	Source	Stem	POT	PROG	HAB	COMPL
lack	S	liji	klyjii	nglyiji	ngliji	ngwljii
	*TAT	liji	klyjii	nglyiji	ngliji	**ngu**-ljii
	**TAT		**ki**-liji	**ndy**-liji	**nd**-liji	
lick	P&P	le‘e	clye‘e	nclye‘e	---	ngule‘e
	*TAT	le7e	klye7é	nglye7ě	ngle7è	**ngu**-le7é
	**TAT		**ki**-le7é	**ndy**-le7ě	**nd**-le7è	
be blessed	S	lakwą	klyakwą	nglyakwą	nglyakwą	ngwlakwą
	*TAT	lakwą	klyakwą	nglyakwą	nglakwą	**ngu**-lakwą
	**TAT		**ki**-lakwą	**ndy**-lakwą	**nd**-lakwą	
escape	S	laa	klyaa	nglyaa	nglaa	ngwlaa
	*TAT	laa	klyaa	nglyaa	nglaa	**ngu**-laa
	**TAT		**ki**-laa	**ndy**-laa	**nd**-laa	
grow	P&P	luu	clyuu	nclyuu	---	nguluu
	*TAT	luu	klyuu	nglyuu	ngluu	**ngu**-luu
	**TAT		**ki**-luu	**ndy**-luu	**nd**-luu	
bark	P&P	lala	---	nclyala	---	ngulala
	*TAT	lala	klyala	nglyala	nglala	**ngu**-lala
	**TAT		**ki**-lala	**ndy**-lala	**nd**-lala	

4.3.3.6 Subclass K

Another class of verbs within Class *Ki- are the K verbs, so called for their k-containing stems (in the case of 'burn it' and 'cover it', the stems are *t*-initial but the following consonant is a *k*). This class is remarkeable for its COMPL in *n*- (which is only found elsewhere in subclass X) and its highly variable POT Aspect prefix. Table 20 gives the surface allomorphs of this verb class, and Table 21 shows off the examples of Class Bk.

The variable forms of the POT and the HAB requre some explanation. Note in Table 21 that the HAB surfaces as *ndu* when the first stem vowel is *u, ǫ* or *ą*. This suggests that the *u* of the prefix has not syncopated for whatever reason. It is unclear what is happening here and why these forms remain unsyncopated (while the COMPL for all of these which likely had inherited the **ngu-* Aspect prefix with the other Class *Ki-* verbs has syncopated and does not even leave a labialized stem consonant (as in the k-initial KU-POT verbs (Section 4.3.5) as its trace (that is, '(he/she/it) was joined together' does not surface as **ngwalya7* but instead as *ngalya7*). It is unclear why only a few verbs of this class preserve the coronal prefix in the POT, but many of these same verbs exhibit similar behavior in ZAC. Interestingly, regressive vowel harmony (that is, the first vowel of the stem affecting the quality of the prefix vowel) has been attested elsewhere in Coastal Chatino (Section 6.3) and may have a hand in the present retention of these prefix vowels.

I analyze the HAB prefix here as an underlying **ndi-* whose vowel harmonizes with the following stem vowel, bringing about laminalization in stems with *i* stem vowels, and the prefixes **ndu-* or **nda-* for other stem vowels. Some of these prefix vowels remain, though the ongoing processes of syncopation has erased them for speakers of contemporary TAT. Once syncopated, the resulting consonant cluster is reduced and the apparent surface allomorph is simply *n-*.

The stem *ka7ą* 'be seated' is placed here in spite of its *ngu-* COMPL prefix, since the stem clearly shares its POT form with those typical of this class. Whether this form is erroneous, represents a morphological variation (a verb whose COMPL may be

realized in different morphological classes, not unlike how the past form of *dive* is for some speakers of English *dived* and for others *dove*), or a change in progress is an open question.

Table 20: Surface Allomorphs of Class Bk

POT	tya, ty, Ø	*kV-
PROG	nty-	*ndy-
HAB	ndu-, n-	*nd-
COMPL	n-	*n-

Table 21: Examples of Class Bk Verbs

Gloss	Source	Stem	POT	PROG	HAB	COMPL
cover	P&P	tacu‘	tacu‘	ndyacu‘	ndacu‘	---
	*TAT	takǫ7	takǫ̀7	**n**-dyakǫ̌7	**n**-dakǫ̀7	**n**-dakǫ́7
	**TAT			**ndy**-takǫ̌7	**nda**-takǫ̀7	
get lost	P&P	cuna‘	cuna‘	---	nducuna‘	nguna‘
	*TAT	kuna7	kunà7	nty-kuna7	**ndu**-kuna7	**n**-guná7
	**TAT		**ty**-kunà7	**ndy**-kuna7		
burn it	P&P	taqui	taqui	---	ndaqui	ndaqui
	*TAT	takį	takį̀	**n**-dyakį̌	**n**-dakį̀	**n**-dakį́
	**TAT			**ndy**-takį̌	**nda**-takį̀	
wash	P&P	qui‘i	qui‘i	---	ngui‘i	---
	*TAT	ki7į	ki7į̀	**n**-gi7į̌	**n**-gi7į̀	**n**-gi7į̀
	**TAT			**ndy**-ki7į̌	**ndi**-ki7į̀	
shoot	P&P	cuu	cuu	nchcuu	nducuu	nguu
	*TAT	koǫ	koǫ̀	**nty**-koǫ̌	**ndu**-koǫ	**n**-goǫ̀
	**TAT			**ndy**-koǫ̌		
wipe	P&P	quityi	quityi	ntyi	---	nguityi
	*TAT	kityį	kityį̀	ntyį	**n**-gityį	**n**-gityį
	**TAT			**ndy**-kityį̀	**ndi**-kityį̀	
push	P&P	cuni‘i	tucuni‘i	nchcuni‘i	---	---
	*TAT	kuni7i	**ty**-kuni7i	**nty**-kuni7i	**ndu**-kuni7i	**n**-guni7i
	**TAT			**ndy**- kuni7i		
be joined	P&P	calya‘	calya‘	---	ndalya‘	ngalya‘
	*TAT	kalya7	kalya7	**nty**-kalya7	ndalya7	**n**-galya7
	**TAT			**ndy**-kalya7	**nda**-kalya7	

Table 21 continued

dry	P&P *TAT **TAT	quityi kityi	quityi kityi	--- **n**-gityi **ndy**-kityi	nguityi **n**-gityi **ndi**-kityi	nguityi **n**-gityi
be seated	P&P *TAT **TAT	ca‘a ka7ą	tyaca‘a **tya**-ka7ą	ndyaca‘a **ndya**-ka7ą	--- **nda**-ka7ą	ngua‘a ngwa7ą **ngu**-ka7ą

4.3.4 NULL VERBS

A good number of verbs in TAT do not have a POT prefix. That is, the POT form is segmentally identical to the stem. This set of verbs appears to be peculiar to TAT (and perhaps other monosyllabified ECH varieties which have not been classified) since ZEN and ZAC verbs all have some POT prefix, be it only the laminalization of the stem consonant. These null-POT stems can be divided roughly up according to their stem consonant, though many of these verbs may have been identified mid-change in P&P as they are now found in other classes in contemporary TAT, as will be discussed in each subsection.

4.3.4.1 Class S

The next sizeable class of verbs are the Class S verbs, so named because many are *s*-initial (and in contemporary TAT nearly every verb in this set is *s*-initial, as *x*-initial verbs have migrated to Class X), even though some verbs in this set circa 1970 are *x*-initial and a *t*-initial verb can be included in this set since it uses the same set of Aspect allomorphs (though by 2010, *taà* 'give' would better fit into subclass K as its COMPL is now *n*- not *ngu*-). Table 22 gives the Aspect allomorphs for Class S, and Table 23 shows off the examples of this class.

Table 22: Surface Aspect Allomorphs for Class S Verbs

POT	Ø	
PROG	n- [lam]	*ndy-
HAB	n-	*nd-
COMPL	ngu-	*ngu-

Table 23: Some Examples of Class S Verbs

Gloss	Source	Stem	POT	PROG	HAB	COMPL
tie it up	P&P	ska’	sca'	nchca'	nsca'	ngusca'
	*TAT	ską7	skà̱7	**nx**-ką́7	**n**-skà̱7	**ngu**-ską́7
	**TAT			**ndy**-ską́7	**nd**-skà̱7	
pinch it	P&P	sata	sata	nxata	nsata	ngusata
	*TAT	sata	satà	**nx**-atắ	**n**-satà	**ngu**-satá
	**TAT			**ndy**-atắ	**nd**-satà	
bathe it	P&P	xkata	xcata	nchcata	---	nguxcata
	*TAT	xkata	xkatà	**n**-xkatá	**n**-xkatà	**ngu**-xkatá
	**TAT			**ndy**-xkatá	**nd**-xkatà	
give it	P&P	taa	taa	---	ndaa	ngutaa
	*TAT	taa	taà	**ndy**-aá	**n**-daà	**ngu**-taá
	**TAT				**nd**-taà	
leave it	P&P	xtyanu	xtyanu	nxtyanu	---	nguxtyanu
	*TAT	xtyanu	xtyanú	**n**-xtyanú	**n**-xtyanú	**ngu**-xtyanú
	**TAT			**ndy**-xtyanú	**nd**-xtyanú	
knock it down	P&P	xlyuu	xlyuu	nxlyuu	---	nguxlyuu
	*TAT	xlyu	xlyu	**n**-xlyù	**n**-xlyu	**ngu**-xlyú
	**TAT			**ndy**-xlyù	**nd**-xlyu	
untie it	P&P	sati’	sati'	nxati'	nsati'	ngusati'
	*TAT	satę7	satę7	**nx**-atę̌7	**n**-satę̀7	**ngu**-satę́7
	**TAT			**ndy**-satę̌7	**nd**-satę̀7	
say goodbye	P&P	salya’	salya’	---	nsalya’	---
	*TAT	salya7	salyá7	**nx**-alyá7	**n**-salyá7	**ngu**-salyá7
	**TAT			**ndy**-salyá7	**nd**-salya7	
bury it	P&P	xatsi’	xatsi'	nxatsi'	---	nguxatsi'
	*TAT	xatzi7	xatzi7	**nx**-atzi7	**n**-xatzi7	**ngu**-xatzi7
	**TAT			**ndy**-xatzi7	**nd**-xatzi7	
split it	P&P	sa’be	sa'be	nxa'be	---	ngusa'be
	*TAT	sa7we	sa7we	**nx**-a7wě	**n**-sa7we	**ngu**-sa7we
	**TAT			**ndy**-sa7wě	**nd**-sa7we	
open it	P&P	saala	saala	nxaala	nsaala	---
	*TAT	sala	salà	**nx**-alắ	**n**-salà	**ngu**-salà
	**TAT			**ndy**-alắ	**nd**-salà	

Table 23 continued

pick	P&P	su	su	nxu	---	ngusu
fruit	*TAT	suu	suù	**nx**-uŭ	**n**-suù	**ngu**-suù
	**TAT			**ndy**-suŭ	**nd**-suù	
begin	P&P	xuna	xuna	nxuna	---	nguxuna
	*TAT	xuna	xuna	**n**-xună	**n**-xunà	**ngu**-xunà
	**TAT			**ndy**-xună	**nd**-xunà	
place it	P&P	sta	sta	---	nsta	ngusta
	*TAT	staa	staà	**nx**-taă	**n**-staà	**ngu**-staà
	**TAT			**ndy**-staă	**nd**-staà	
throw	P&P	xcuaa	xcuaa	nchcuaa	---	nguxcuaa
away	*TAT	xkwaą	xkwaą	**n**-xkwaą	**n**-xkwaą	**ngu**-xkwaą
	**TAT			**ndy**-xkwaą	**nd**-xkwaą	
turn it	P&P	xasu	xasu	nxasu	---	nguxasu
over	*TAT	xasu	xasú	**n**-xasú	**n**-xasú	**ngu**-xasù
	**TAT			**ndy**-xasú	**nd**-xasú	
rub it	P&P	sube’	sube'	---	nsube'	ngusube'
	*TAT	suwe7	suwe7	**nx**-uwé7	**n**-suwe7	**ngu**-suwe7
	**TAT			**ndy**-suwé7	**nd**-suwe7	
clean it	P&P	subii	subii	---	nsubii	ngusubii
	*TAT	suwi	suwí	**nx**-uwi	**n**-suwi	**ngu**-suwi
	**TAT			**ndy**-suwi	**nd**-suwi	

4.3.4.2 Class X

A marginal verb class in TAT in 1970 which has since expanded is Class X. Class X is distinguished from Class S by virtue of having an *n*- COMPL instead of the *ngu*- of the S Class, likely through the reduction of the */ngx/ cluster brought about by prefix vowel syncopation. Thus Class X is less a morphological class than a set of stems whose phonology obscures the morphology of their Aspect prefixes beyond the presence or absence of the nasal accretion *n*-, thus I do not reconstruct Aspect prefixes for this group, but instead place all such stems in Class X. Much like with the verbs with laminal stem consonants in Class S, there is no segmental distinction between the PROG and the HAB in Class X, again, an obfuscation of distinction rather than a morphological

change. Table 24 provides the surface allomorphs of Class Ax and Table 25 provides several examples of this class.

Table 24: Surface Allomorphs of Class X

POT	Ø
PROG	n
HAB	n
COMPL	n

Table 25: Some examples of verbs in Class X

Gloss	Source	Stem	POT	PROG	HAB	COMPL
save it	P&P	xtyaco’o	xtyaco'o	nxtyaco'o	---	---
	*TAT	xtyako7o	xtyako7ó	**n**-xtyako7ǒ	**n**-xtyako7ó	**n**-xtyako7o
reach	P&P	jyacua	jyacua	njyacua	---	njyacua
	*TAT	jyakwa	jyakwà	**n**-jyakwà	**n**-jyakwà	**n**-jyakwá
dry it	P&P	xquityi	xquityi	nchquityi	---	nchquityi
	*TAT	xkityi	xkityi	**n**-xkityi	**n**-xkityi	**n**-xkityi
frighten it	P&P	xcutsį	xcutsi	nchcutsi	---	nchcutsi
	*TAT	xkutzę	xkutzę	**n**-xkutzę̌	**n**-xkutzę	**n**-xkutzę
shake it	P&P	xquiña	xquiña	nchquiña	---	nchquiña
	*TAT	xkinya	xkinya	**n**-xkinya	**n**-xkinya	**n**-xkinya
pull it up	P&P	xatu	xatu	nxatu	---	nxatu
	*TAT	xatų	xatų	**n**-xatų	**n**-xatų	**n**-xatų
change it	P&P	xcutsa’a	xcutsa’a	nchcutsa’a	---	nchcutsa’a
	*TAT	xkutza7ą	xkutza7ą	**n**-xkutza7ą	**n**-xkutza7ą	**n**-xkutza7ą

4.3.5 KU-VERBS

One sizeable group of verbs is that set which uniquely features the *ku-* Aspect prefix. These are generally transitive verbs which have consonant-initial stems, due to the interaction of the Aspect prefix and stem consonant (whether it is a *l*,or *k*), this group is further subdivided on the basis of the stem consonant, though the morphophonemic

processes are regular enough that the three subsets of Class *Ku- (*s*- or *tz*- initial, *l*-initial and *k*-initial) are grouped together as one class.

First we will consider stems in *s* or *tz*. Due to various processes which will be discussed at length below, this set is comparatively small, though it demonstrates the Aspect prefixes clearly. Table 26 shows the Aspect allomorphs for this set and Table 27 provides several examples of these verbs.

Table 26: Surface Allomorphs for *s*- and *tz*- Initial *Ku- Stems

POT	ku-	*ku-
PROG	n-[lam]	*ndy-
HAB	n-	*nd-
COMPL	ngu-	*ngu-

Table 27: Some Examples of Class Ku- Verbs with s- or tz- Initial Stems

Gloss	Source	Stem	POT	PROG	HAB	COMPL
fight	PP	sų	cusu	nxu	---	ngusu
	*TAT	soǫ	**ku**soǫ́	**nx**oǫ́	nsoǫ	**ngu**-soǫ́
	**TAT			**ndy**-soǫ́	**nd**-soǫ	
scrape it	PP	saa’	cusaa'	---	**ns**aa'	ngusaa'
	*TAT	saa7	**ku**saa7	nxaa7	nsaa7	**ngu**-saa7
	**TAT			**ndy**-saa7	**nd**-saa7	
fill it	PP	tza7a	cutsa'a	---	ntsa'a	ngutsa'a
	*TAT	tza7ą	**ku**tza7ą	ncha7ą	**ntz**a7ą	**ngu**-tza7ą
	**TAT			**ndy**-tza7ą	**nd**-tza7ą	

The second subset of Class Ku- verbs are those whose stems begin with *l*. Here the coronal-velar merger takes place in the PROG and HAB, leading to a different surface form for those Aspects. Table 28 shows the Aspect prefixes for this set and Table 29 provides a few examples of the *l*-initial Class Ku- verbs.

Table 28: Surface Allomorphs for l- initial stems of class *Ku-

POT	ku-	*ku-
PROG	ng [lam]	*ndy-
HAB	ng-	*nd-
COMPL	ngu-	*ngu-

Table 29: Some Class Ku verbs with *l*-initial stems

Gloss	Source	Stem	POT	PROG	HAB	COMPL
look for it	P&P	lana	culana	nclyana	---	ngulana
	*TAT	lana	**ku**-laná	**ngly**-aná	**ng**-lanà	**ngu**-laná
	**TAT			**ndy**-laná	**nd**-lanà	
count it	P&P	lacua	culacua	nclyacua	---	ngulacua
	*TAT	lakwa	**ku**-lakwà	**ngly**-akwǎ	**ng**-lakwà	**ngu**-lakwá
	**TAT			**ndy**-lakwǎ	**nd**-lakwà	
spend it	P&P	liji	culiji	---	ncliji	nguliji
	*TAT	liji	**ku**-liji	**ngly**-iji	**ng**-liji	**ngu**-liji
	**TAT			**ndy**-liji	**nd**-liji	
boil it	P&P	lacui	culacui	nclyacui	---	ngulacui
	*TAT	lakwi	**ku**-lawì	**ngly**-akwí	**ng**-lyakwì	**ngu**-lakwí
	**TAT			**ndy**-lakwí	**nd**-lakwì	
blow	P&P	latu’u	culatu'u	nclyatu'u	---	ngulatu'u
	*TAT	latu7u	**ku**-latu7ú	**ngly**-atu7ǔ	nglatu7ù	**ngu**-latu7ú
	**TAT			**ndy**-latu7ǔ	**nd**-latu7ù	
break,	P&P	la’a	cula'a	nclya'a	---	ngu-la'a
plow	*TAT	la7a	**ku**-la7a	**ngly**-a7ǎ	**ng**-la7a	ngula7à
	**TAT			**ndy**-la7ǎ	**nd**-la7a	
remove it	P&P	loo	culoo	nclyoo	---	nguloo
	*TAT	loo	**ku**-loó	**ngly**-oó	**ng**-loo	**ngu**-loò
	**TAT			**ndy**-loó	**nd**-loo	
release it	P&P	laa	culaa	nclyaa	---	ngulaa
	*TAT	laa	**ku**-laà	**ngly**-aǎ	**ngl**-aa	**ngu**-laà
	**TAT			**ndy**-laǎ	**nd**-laa	
show it	P&P	lu’u	culu'u	nclyu'u	---	ngulu'u
	*TAT	lu7u	**ku**-lu7u	**ngly**-u7ǔ	**ng**-lu7u	**ngu**-lu7u
	**TAT			**ndy**-lu7ǔ	**nd**-lu7u	
bless it	P&P	lacua̲a	culacua̲a	nclyacua̲a	---	ngulacua̲a
	*TAT	lakwaą	**ku**-lakwaą	**ngly**-akwaą	**ng**-lakwaą	**ngu**-lakwaą
	**TAT			**ndy**-lakwaą	**nd**-lakwaą	

Table 29 continued

abandon it	P&P	lati'i	culati'i	nclyati'i	---	ngulati'i
	*TAT	lati7ị	**ku**-lati7ị	**ngly**-ati7ị	**ng**-lati7ị	**ngu**-lati7ị
	**TAT			**ndy**-lati7ị	**nd**-lati7ị	
sweep it	P&P	lacua	culacua	nclyacua	---	ngulacua
	*TAT	lakwa	**ku**-lakwa	**ngly**-akwa	**ng**-lakwa	**ngu**-lakwa
	**TAT			**ndy**-lakwa	**nd**-lakwa	
weed it	P&P	laja	culaja	nclyaja	---	ngulaja
	*TAT	laja	**ku**-laja	**ngly**-aja	**ng**-laja	**ngu**-laja
	**TAT			**ndy**-laja	**nd**-laja	
move it	P&P	latsu'	culatsu'	ndyatsu'	---	ngulatsu'
	*TAT	latzu7	**ku**-latzu7	**ng-ly**atzu7	**ng**-latzu7	**ngu**-latzu7
	**TAT			**ndy**-latzu7	**nd**-latzu7	

More explanation is necessary for the third subset of Class Ku verbs which have *k*-initial stems. Though the stems are *k*-initial, the stem consonant is only visible in the PROG and the HAB, as the velars of the POT and COMPL have brought about the deletion of these stem consonants. Table 30 shows the surface allomorphs for Class Ku verbs with *k*-initial stems, and Table 31 shows the examples of these verbs. The [lab] notation indicates the labialized production of the velar root consonant. Since these verbs had already undergone the vowel syncopation in P&P's data, they are not reconstructed with *ku*- POT prefixes here.

Table 30: Surface Allomorphs of Class Ku Verbs with *k*-initial Stems

POT	[lab]	*ku
PROG	nty-	*ndy-
HAB	nt-	*nd-
COMPL	n [lab]	*ngu-

Table 31: Some examples of Class Ku verbs with *k*-initial stems

Gloss	Source	Stem	POT	PROG	HAB	COMPL
announce	S	kani	kwani	ntykanĭ	ntkani	ngwaní
	*TAT	kani	**kw**-kani	**ndy**-kani	**nd**-kani	**ngw**-kani
	**TAT		**ku**-kani			**ngu**-kani
haul	P&P	ca’a	cua'a	nchca'a	---	ngua'a
	*TAT	ka7ą	**kw**-ka7ą	**ndy**-ka7ą	**nd**-ka7ą	**ngw**-ka7ą
	**TAT		**ku**-ka7ą			**ngu**-ka7ą

4.3.6 TAT VOWEL HIATUS RESOLUTION HIERARCHY

Now we will turn to the question of a Vowel Hiatus Resolution Hierarchy in TAT. As very few prefixes synchronically contain a vowel, a VHRH will be posited as a historic entity rather than as a current, productive vowel hiatus resolution scheme. The next subsection outlines the VHRH for TAT and the section following that will provide the justifications for the VHRH.

4.3.6.1 The VHRH

In his reconstruction of the Aspect markers of proto-Zapotec (PZP), Kaufman posits a Vowel Hierarchy to describe the facts relating to when certain pairs of vowels are adjacent underlyingly (for example when COMPL prefix *ngu-* is attached to *-alá* 'be born') only one vowel will surface (*ngu-lá*). Which vowel will surface is determined by the placement of the vowel on this Vowel Hierarchy, not their sonority, order or morphological status (i.e. it is not the case that root vowels are always preserved or that prefix vowels always surface). To render this term more transparent I will refer to Vowel Hierarchies in this sense as Vowel Hiatus Resolution Hierarchies (VHRH).

By way of an example, the VHRH formulated by Kaufman for PZP is *e* > *u/o* > *a* > *i*, where an underlying vowel will not surface if it is adjacent to an underlying vowel

which is to the left of it on the hierarchy. Thus, Kaufman's PZP VHRH predicts that **ai* → *a*, **oe* →*e*, **ui* → *u* and **iu* → *u*.

Figure 3: PZP VHRH as a matrix

V1 \ V2	a	e	i	o	u
a	-	e	a	o	u
e	e	-	e	e	e
i	a	e	-	o	u
o	o	e	o	-	-
u	u	e	u	-	-

In the matrix in Figure (3), the possible combinations of underlying vowels are listed along with the surfacing vowel predicted by the hierarchy. In cases where the underlying hiatus consists of two vowels of identical quality, or in places where the hierarchy makes no prediction about which vowel will surface, a dash is placed in the corresponding cell.

The Vowel Hiatus Resolution Hierarchy which I posit for TAT can be found in Figure 4. *u* and *e* dominate *i* which in turn dominates *a*. The comparative rarity of non-final mid vowels has brought about an inability to place *o* on the hierarchy and *e* can only be ranked with regard to *i*.

Figure 4: The TAT VHRH

e, u > i > a

Figure 5: TAT VHRH as a matrix

V1 \ V2	a	e	i	-	u
a	-	e	i	-	u
e	e	-	e	-	-
i	i	e	-	-	u
-	-	-	-	-	-
u	u	-	u	-	-

Inspection of the above matrix shows that the loss of prefix vowels throughout TAT means that fewer statements about hiatus resolution can be made in TAT than for PZP or for ZEN and ZAC (Sections 6.2.3 and 6.3.3).

4.3.6.2 Justifications of the TAT VHRH

Within the Class *K- verbs, we can observe that the vowel of the *ngu-* prefix obscures the *a* stem vowel. The *ngwi-* prefix of Class *Ngwi-* is obscured by the stem vowel of 'go down' (i.e. *ngwa7yà* not **ngwi7yà*) but not by the stem vowel of 'suck' (i.e. *ngwityi7* not **ngwati7*). This apparent conundrum can be solved by an inspection of these verbs in other Chatino languages. Penultimate **e* was lowered in TAT (non-final syllables infrequently contain mid vowels except for those which are mirrored across a laryngeal (e.g. *ko7o* 'will drink')) and 'go down' has the root **e7ya* in ZEN. Thus, at a historic time in the language, the *e* of 'go down' dominated the prefix vowel of *ngwi*, producing **ngwe7yà*. On the other hand, 'suck' historically had a low vowel, which was dominated by the prefix vowel whose frontness caused the stem consonant to be laminalized (**ngwi-ati7* → *ngwityi7* 'sucked').

Another example of how the VHRH can explain irregularities in the Aspect prefix system occurs in the COMPL of 'warn' a Class V2 verb of stem *-achá7* whose COMPL

is not the expected **ndyachá7* but rather *ndachá7*. Neither does the PROG surface with the expected laminalized consonant. This can also be explained by positing the historic stem **-echá7*, though we must also posit that the laminalization process would occur after the vowel had already lowered, so that the consonants are no longer in a triggering environment. This proposition is supported by the fact that the PROG of 'warn' (*ndachà7*) similarly fails to have a laminalized stem consonant.

4.3.7 THE INTERSECTION OF TONE AND THE VERB CLASSIFICATION

4.3.7.1 Tone and Verbs

A few of the patterns of verb inflection across person can be identified. Generally, if a base carries the Relaxed tone, the second-person will carry the inert High tone[12]; a base of Low, High, or High-Relaxed-tone will have the second-person in the High-High tone. The first-person verb is usually of the High-Low tone, though as was seen in the COMPL of 'give it' (Table 1 above) exceptions to this pattern do exist (e.g. *ndyaku* COMPL.eat.3 is Relaxed but its first-person singular form is *ndyakǫ́* not **ndyakǫ̂*).

Figure 6: Some Tone Inflection Patterns across Person

Base tone	Second-person tone	First-person tone
Relaxed	Inert High	High-Low
Low	High-Relaxed	High-Low
High-High	High-Relaxed	High-Low
High	High-High	High-Low

[12] The Inert High tone is superficially identical to the common High tone found in verb bases and nouns, but tonomechanically distinct in that it does not license tone sandhi on following Receptive-tone words. Whether this is a product of the tone itself or if the morphological status of the inflected second-person verb is blocking the sandhi-causing behavior of the High tone is an open question.

For the purposes of this work, these patterns are presented in Figure 6 to show that there is likely only a need to indicate four forms of each verb in the lexicon (the base forms) with additional entries for verbs which do not perform according to one of the above patterns, and a future work will expand on the details and implications of this system of inflection. Furthermore, each of these four inflection patterns occurs in many different verb classes and which person inflection paradigm a verb chooses is orthogonal to its choice of Aspect morphology.

4.3.7.2 Tone across Aspect

The other manner in which tone may vary within a verb is in the across-Aspect dimension. There is a tone in TAT which is peculiar to one Aspect, and patterns of tone variation across Aspect can be found in Eastern Chatino veriaties.

4.3.7.2.1 The PROG-specific Tone

The only Aspect which is associated with a unique or peculiar tone in TAT is the PROG Aspect, whose base forms overwhelmingly feature the High-High tone. Evidence from ZAC indicates that this tone is the result of a mid tone (Eastern Chatino tone set[13] C) carried on the PROG prefix which creates a rising tone linked to the penultimate syllable in that variety (Campbell and Woodbury 2010). Beyond this association of tone and Aspect, no other tone is limited to just one Aspect. The association of a particular tone with a given Aspect is not all that unusual, given the tendency of Zapotec languages to have a high tone on POT verbs (Beam de Azcona 2004, Smith Stark 2002). It should be noted that this association of the PROG with a

[13] See Cruz and Woodbury (2006) for a discussion of the very robust system of cognate tone sets in Eastern Chatino.

particular tone is not attested in ZEN, and can be assumed to be a feature of Coastal Chatino.

While tones are not associated with particular Aspects in ZEN, two pairs of Aspects (POT and HAB along with COMPL and PROG) always exhibit the same tone.

4.3.7.2.2 Tone Across Aspect in Eastern Chatino

Patterns of variation of tone across Aspect has been observed in SJQ (Woodbury 2008). For example, knowing the COMPL tone of a verb in that variety allows one to predict what the POT tone (and consequently the HAB tone) will be. Preliminary and ongoing investigations into this tone-across-Aspect variation in TAT have suggested that the TAT system may be largely cognate with what the SJQ system demonstrates.

4.3.7.3 Tone Across Verb Classes

Now that the variation of tone across individual verbs has been confined and is roughly predictable, the question remains about whether or not the lexical tones of verb stems intersect with the verb classification.

The assignment of lexical tone to verb stems was found to be "orthogonal to the verb class system in ZEN" (Campbell 2009:50). Neither is the lexical tone of a verb the sole feature which will distinguish among different Aspects of a single verb root, as the vowels of many Aspect prefixes are preserved in this variety, and thus two Aspects of the same verb will never be segmental identical.

Villard does not address the issue of cross-class tone associations, and there is no evidence to suggest that such variation exists, as tones occur in all verb patterns. Likewise, in TAT there are examples of each different tone occurring in throughout the

verb classes so there is no reason to suspect that the selection of Aspect allomorphs in any way conditions the lexical tone which will appear on a verb stem. Furthermore, a stem's selection of its tone is predicted by the tone in some other Aspect (namely the COMPL) rather than the morphological class to which the verb belongs.

4.4 Irregularities

There are a small number of irregularities which remain. These include the L-PROG and a handful of verbs which are difficult to fit into any class.

4.4.1 THE L-PROG.

A small number of verb stems take the PROG allomorph *l*-. Some of these L-PROG forms are also seen in ZAC and PAN (Figure 7). This lateral-initial form of the verb is unattested in ZEN and elsewhere in Eastern Chatino. The absence of this form in some Eastern Chatino varieties (for example, SJQ) can be explained by the loss of the *l* along with other pretonic syllables in the monosyllabification processes among most of the varieties of that language or alternatively by a modification of the *l* to *n* in its position at the margin of the word. Therefore the lateral-initial verbs may represent an innovation in Coastal Chatino which occurred after the split with ZEN or else these lateral-initial forms are irregular retentions in Coastal which have been analogically leveled in ZEN.

Figure 7: L-Aspects in Some Coastal Chatino varieties

gloss	stem	TAT		ZAC	PAN	SJQ
		POT	PROG	HAB	PROG	PROG
be	aka	k-aka	l-aka	laka^{MM}	lka^{23}	nga^{24}
sleep	aja7	k-aja7	l-aja7	laja7^{XL}	laja7^{4}	--
come	aą	k-aą́	ljy-aą	--	ndijyą^{23}	ngyą^{24}
live	u7u	ty-u7ù	l-u7ŭ	lo7o^{XL}	lu7u^{23}	--

4.4.2 IRREGULAR VERBS.

Figure 8 below lists several verbs whose irregularities in terms of stem alternations or allomorph choice cannot be explained by the above classification. Many of these same verbs are irregular in other Chatino languages as well. Note that the COMPL of 'say' *yakwę* is actually cognate with other Chatino languages which allow for *y*-COMPL. In TAT, however, this is the only example of a *y*-COMPL as all other COMPL forms of Class C2 feature the *ndy* prefix which is the expected post-syncopation cognate of the doubly-marked *nga-y-* which alternates with *y-* for these verbs in ZEN and ZAC.

Figure 8: Some Irregular Verbs

Gloss	Stem	POT	PROG	HAB	COMP
go	aá	tzaa	ndyaa	ndyaa	ndyaá
say	akwę	nakwę	---	---	yakwę
come	aą́	kaą́	ljyaą	nyaà	nyaá
see	na7ą	nya7a	nya7a	nya7á	na7à
die	ajwì	kajá	ndyijĭ	ntyji	nkjwiì
find it	ají	kaja	ndyiji	ntyjì	nkjwí

5. THE TATALTEPEC CHATINO VERB CLASSIFICATION TODAY

This section will discuss the systemic differences in the reconstructed verb class system and how the verb system appears today, a little more than forty years after the compilation of the data in Pride and Pride (1970). First, changes in morphology will be discussed, and then subsequent phonological alterations will be explained.

5.1 Morphological Changes

One noticeable change in the morphology of the verb system occurs with the POT Aspect of some *Ki- verbs, and the general migration of various verbs from one category to another.

The *s*-initial verbs which are in Class Ki- in Pride and Pride by virtue of their laminalized POT must be placed into Class S based upon my current data since they are currently produced without laminalization. For example, 'will cut it' is *xi7yu* in the ca. 1970 data above, but currently is produced as *si7yu* by all speakers. Some speakers will retain the laminalized consonant in commands. As there is no phonological basis for this change, we must then consider this change to be morphological in nature, with current speakers realizing the POT of these verbs with a null prefix instead of with the laminalization used by the speakers consulted by Pride and Pride.

Class X is also larger today because of the syncopation of the COMPL prefix vowel. Thus, whereas 'began' is **nguxunà* it is currently *nkxonà ~ nxonà* which I place within Class X rather than S, though this is not *a priori* evidence for morphological

change but rather the result of a phonological change which obscures the etymological prefix morphology.

5.2 Phonological Changes

Pride and Pride do not consider *kw* to be a phoneme, and write both *kuC* and *kwV* as *cu*. This orthography introduces an ambiguity, for *ngula* ‘mature‘ may either be pronounced disyllabically ([^{n}gu.la], spelled *ngula* in my orthography) or monosyllabically ([^{n}g^{w}la] which I spell *ngwla*). Currently, there are very few *ku* prefixes which preserve their vowel since it has syncopated due to being a non-stem vowel. As residue of its presence, the vowel has labialized the consonant before disappearing, thus turning supposed *kuC* sequences into *kwC* sequences (e.g. **kuteę̀* ‘will haul it‘ is synchronically *kwteę̀* and **kulaná* ‘will search for it‘ is *kwlaná*). A similar process has brought about a large number of verbs with labialized COMPL prefixes as well (**ngule7é* ‘licked it‘ is currently *ngwle7é* and **nguta7ą́* ‘went around‘ is now *nkwta7ą́)*.

Labialization of a velar following the loss of a following high back vowel is attested elsewhere in Chatino. For example, ‘old‘ in ZAC is *kola* (phonetically [kulːa]), whereas in more conservative varieties of SJQ, the same word is pronounced *kwla*^{4}. The labialization is not found in the speech of younger speakers.

6. OTHER VERB CLASSIFICATIONS

This section will outline the various other verb classifications which have been created for other relevant Zapotecan languages. First I will summarize the verb classification scheme Kaufman (1987) has created for proto-Zapotec, which is relevant since we can assume that proto-Zapotec would have much in common with its sister language, proto-Chatino. Next, the verb classification of Campbell (2009) for Zenzontepec Chatino will be discussed. Finally, the verb classification scheme which Villard (2009) has found for the Eastern Chatino of San Marcos Zacatepec will be summarized.

6.1 Proto-Zapotec

Kaufmann (1987) classifies Zapotec verbs based on their aspect morphology and stem characteristics, and reconstructs POT and COMPL markers for each verb class of proto-Zapotec (PZP), summarized in Table 32.

Table 32: PZP verb classes and reconstructed aspect markers

	Class A	Class B	Class C	Class D
POT	**ki-*	**ki-*	**k-*	**k-*
COMPL	**kwe-*	**ko-*	**ko-*	**ko-*
replacives	NO	NO	NO	YES
begin with	V	C	C,V	V, s

6.1.1 DISCUSSION OF THE FOUR CLASSES

Classes A and B feature a POT of **ki*- and Classes C and D have **k*- in POT. Class A is distinguished from Class B by having a COMPL in **kwe*- and having roots which are vowel-initial instead of consonant-initial. The roots of Classes C and D may be vowel initial, though those of Class C may also be consonant initial and in Class D the

roots can also begin with s. Class D is further distinguished from Class C (and the rest of the verbal system) by its use of replacive consonants.

Kaufman also reconstructed a marker of HAB Aspect **tyi-* and a marker of PROG Aspect **kkay-*, whose expected reflexes (*nti- ndi-* and *nte- nda-*, respectively) we will see below in the discussion of those aspect markers in ZEN and ZAC. The prenasalization found on all non-POT Aspect markers is also, as Campbell notes (2009:20), found in Southern Zapotec and Kaufman (1993) reconstructs a proto-Otomanguean adverb **na* 'now' as the source of this now-frozen prenasalization.

6.1.2 REPLACIVE CONSONANTS

In Kaufman's analysis, verbs with replacive consonants have verb stems which begin with one consonant in the COMPL and either no consonant or a different consonant in other aspects, simplifying the apparent irregularity of that verb class. For example, in the Northern Zapotec of Comaltepec, the replacive consonant (*g, gu* /g/ ~ *c, qu* /k/) in the verb root is replaced by a *d* in the Completive aspect (10) (Lyman Boulden 2010:82).

(10)

caparo	r-gaparo	u-daparo
POT+REPL.slap	HAB-REPL.slap	COMPL-REPL.slap
qui'nro	r-gui'nro	u-di'nro
POT+REPL.bite	HAB-REPL.bite	COMPL-REPL.bite

The replacive consonant phenomenon is entirely absent from every Chatino language and variety which has been analyzed, making it safe to presume that replacive consonants and Kaufman's Class D are a Zapotec-only phenomenon.

6.1.3 VOWEL HIATUS RESOLUTION HIERARCHY

Since many PZP roots begin with vowels, and most Aspect prefixes end in vowels, Kaufman established the Vowel Hierarchy (or in the terms of this paper, the Vowel Hiatus Resolution Hierarchy (VHRH)) to describe the fact that when certain pairs of vowels are adjacent underlyingly, which vowel will surface is determined by the quality of the vowels involved.

The VHRH formulated by Kaufman for PZP is *e* > *u/o* > *a* > *i*, where an underlying vowel will not surface if it is adjacent to an underlying vowel which is to the left of it on the hierarchy. To illustrate, this VHRH predicts that **ai* → *a*, **oe* → *e*, **ui* → *u* and **iu* → *u* (*see* Section 4.3.6).

6.2 Zenzontepec Chatino

Campbell (2009) divided the verbs of ZEN into three main classes, named A, B, and C to facilitate comparison of the scheme with that of PZP. Each class is divided into two or three subclasses (Table 33).

Table 33: ZEN verb classes with their corresponding aspect allomorphs.

Class	A		B			C	
Sub-class	Au, Ac	A2	Bc	Bt	By	C	C2
POT	ki-		ki-	[lam]	(y→ch)	k-	
PROG	nte-		nte-			nch-	ntey- ~ nch-
HAB	nti-		nti-	n [lam]	n (y →ch)	nti-	
COMP	nka-	nkwi-	nku-		nk-	nku-	nkay- ~ y-

6.2.1 DISCUSSION OF THE THREE CLASSES

Class A is comprised of transitive verbs with the POT allomorph *ki-*, PROG *nte-*, HAB *nti-*, and either *nka-* (classes Au and Ac) or *nkwi-* (class A2) in the COMPL.

Class Au is comprised of transitive verbs derived from intransitive (or less-transitive) stems by means of a *u*-causative prefix. This *u* is ranked higher on the vowel hierarchy than the *i* of the POT and HAB prefixes, and as such, these forms of these verbs surface with *k-u-* or *nt-u-* rather than *ki-*or *nti-* (i.e. *kusana*[14] and *ntusana,* not **kisana* 'will open it' or **ntisana* 'opens it'). However, the *e* of the PROG is ranked higher than the *u* and thus the PROG prefix vowel triumphs where the HAB prefix vowel fails and *ntesana* (but not **ntusana*) 'is opening it' surfaces.

Class Ac takes the same set of allomorphs, but as this class is formed of consonant-initial roots which do not interact with the prefix vowels, they are placed in a separate subclass. Their placement in a separate subclass is also motivated by this set of verbs being chiefly unergative and often describing body functions.

Class A2 is distinct from Ac only in that the COMPL Aspect marker is *nkwi-* (which is the expected reflex of PZP **kwe-*) and not the *nka-* found elsewhere in the class. In the above example *nkweta* 'waited for it' note that the prefix vowel *i* again fails to surface in the face of the *e* of the verb stem.

Class B is mostly intransitive, consonant-initial verbs with *nte-* in the PROG and *nku-* or *nk-* in the COMPL. Class Bc is the set of consonant-initial stems which demonstrate the Aspect morpheme vowels clearly. The less-transitive roots from which *u*-causative verbs are derived appear as the intransitive stems of this class. Class Bt consists of *t-* initial stems whose initial consonant interacts with the Aspect morpheme's

[14] The practical orthography of ZEN differs from that of TAT in that voicing is entirely predictable so that all prenasalized stops (and the affricate *ch*) are voiced and in the absence of a voicing contrast they are written phonemically as *mp nt nty nky nk, nkw nch*. ZEN has a mora-linked tone system with three tones indicated by diacritics over the vowels: unmarked (phonetically low or falling) *a*, mid *ā* and high *á*.

vowel resulting in the laminalized *ty*. Class By is made of *y*-initial stems which may surface as *ch*-initial verbs in the POT and PROG.

Class C is made up of vowel-initial stems which take *k*- (without a vowel) in the POT. Class Ca is populated by *a*-initial stems which take *nku*- in the COMPL and Class C2 verb stems begin with a vowel (*a* among them) and take *y*- or the doubly-marked *nkay*- in the COMPL.

6.2.2 ILLUSTRATIONS OF EACH SUBCLASS

Table 34 provides two examples of verbs from each subclass of the ZEN classification.

Table 34: Some examples of each verb class of ZEN

Class	gloss	root	POT	PROG	HAB	COMPL
Au	burn it	u-takę	**k**-u-takę̄	**nte**-tākę́	**nt**-u-takę̄	**nka**-tākę́
	open it	u-sana	**k**-u-sana	**nte**-sana	**nt**-u-sana	**nka**-sana
Ac	laugh	xiti	**ki**-xiti	**nte**-xiti	**nti**-xiti	**nka**-xiti
	fight	sǫ́	**kī**-sǫ́	**ntē**-sǫ́	**ntī**-sǫ́	**nkā**-sǫ́
A2	wait	eta	**k**-eta	**nte**-k-eta	**nt**-eta	**nkw**-eta
	turn over	sesu	**ki**-sesu	**nte**-sesu	**nti**-sesu	**nkwi**-sesu
Bc	be opened	sana	**ki**-sana	**nte**-sana	**nti**-sana	**nku**-sana
	stretch out	wini	**ki**-wini	**nte**-wini	**nti**-wini	**nku**-wini
Bt	go around	ta7ą	**ty**a7ą	**nte**-tya7ą	**n-ty**a7ą	**nku**-ta7ą
	start	tyejnā	**ty**ejnā	**nte**-tyejnā	**nty**ejnā	**nku**-tyejnā
By	wilt	y-ana	**ch**-ana	**nte**-y-ánā	**n-ch**-ana	**nk**-y-ánā
	be burned	y-akę̄	**ch**-akę̄	**nte**-y-akę̄	**n-ch**-akę̄	**nk**-y-akę̄
C	get wet	atza7	**k**-atza7	**nch**-atza7	**nti**-tza7	**nku**-tza7
	die	aja	**k**-aja	**nte-y**-aja	**nt**-ji	**nk**-ujwī
C2	hold it	ala7	**k**-ala7	**nch**-ala7	**nti**-la7	**nka-y**-ala7
	sell it	ujwi7	**k**-ujwi7	**nch**-ujwī7	**nt**-ujwi7	**y**-ujwī7

6.2.3 VOWEL HIATUS RESOLUTION HIERARCHY

As can be seen in Table 34 above, *u* > *i* (**ntitakę̄* ‘burns it‘), *e* > *i* (**kita* ‘will wait for it’), *i* >*a* (**ntatza7* ‘it gets wet’), and *e* > *u* (**ntutākę́* ‘is burning it’). These data

points along with others discussed in Campbell (2009:23*ff*) allow for the creation of a VHRH for ZEN which can be written as *e* > *u* > *i* > *a*, *o*. Due to the absence of underlying **ao* or **oa* hiatus, there is no evidence for ranking *a* and *o* relative to one another.

6.2.4 MORPHOPHONOLOGY

In order for the underlying Aspect morphemes shown in Table 33 to combine with verb stems and surface as the forms in Table 34, some morphophonological peculiarities must be expanded upon. Firstly, the careful reader will have noted a violation of the VHRH in the COMPL forms of class Au. Strict adherence to the VHRH would predict that the underlying hiatus in *nka-utākę́* would be resolved as **nkutākę́* rather than the actual *nkatākę́* 'burned it'. This VHRH violation holds for all Class Au COMPL in ZEN, and as we will see in Section 6.3 below, this is a trait of the ZAC Class Au COMPL as well.

Other items of note are the insertion of a *k* (presumeably the POT prefix) between the stem and Aspect prefix in some PROG forms, and the apparent double marking of the COMPL Aspect in some Class C2 verbs (*nka-y-*) which freely varies with the expected Aspect prefix for this Class (*y-*) in ZEN (Woodbury, p.c. cited in Campbell 2009:23).

Campbell also identifies instances of haplology in the HAB of some verbs, where one of two similar underlying CV sequences is deleted. For example, this haplology occurs in Class Au HAB verbs with a stem of *tu-* and in some Class A COMPL verbs with stems beginning with *ka-*. This explains why underlying forms such as *nti-u-tūkwá*

'causes to go in' and *nka-u-kachī7* 'buried it' surface as *ntūkwá* (not **ntutūkwá*) and *nkachī7* (not **nkakachī7*).

6.3 The Eastern Chatino of San Marcos Zacatepec

Villard (2009) in her study of the verbs of ZAC, a variety of Eastern Chatino which preserves most non-final syllables (in contrast to most varieties of Eastern Chatino which have either lost most non-final syllables or currently feature consonant clusters resulting from the syncopation of those atonic vowels), finds the three main verb classes of ZEN are visible in ZAC (with some modification) and posits additional sub-classes for Class B (Table 35).

Table 35: ZAC verb classes and Aspect allomorphs.

Class	A			B				C	
Subclass	Au	Ac	A2	Bj	Bk	Bc	By	C	C2
POT	k-	[lam]		Ø, ti-		[lam]	k-	k-	
PROG	nda-			nda-			ndi-k-	ngy-	
HAB	ndi-			ndi-			ng-	ndi-	
COMPL	nga-		ngwi-	nga-	n-	ngo-	ngy-	ngo-	(nga-)y-

6.3.1 Discussion of the Three Classes

Class A is the primarily transitive set of verbs which take the POT in *ko-* or through the laminalization of the initial consonant (the residue of a historic *ki-*), and take either *nga*[15]- or *ngwi-* in the COMPL. Sub-class Au, much like that of ZEN is populated by the transitive stems derived from intransitive roots by the *u*-causative. Classes Ac

[15] The practical orthography of ZAC differs from that in TAT in a few ways. First, non-final *o* is phonetically [u]. Secondly, tone in ZAC is stem-linked and indicated by superscript letters. R is Rising, L is Low, M is mid, H is High and X is unmarked for tone. A contrast between oral and nasalized vowels after nasal consonants in preserved in ZAC unlike in the rest of Chatino where this contrast is lost. Like ZEN, voicing is predictable based on prenasalization, but these are written as voiced in the practical orthography as a concession to speakers' familiarity with Spanish, where such a voicing contrast (and the symbols to write it) is phonemic.

and A2 take similar morphology as class Au, except that, as in ZEN, class A2 has a *ngwi-* COMPL, and unlike ZEN, class Ac marks the POT by the laminalization of the stem consonant, behaving in this regard more like A2 than Au. This loss of a historic prefix leaving a residue of laminalization which serves to indicate the POT appears to be a feature of Coastal Chatino, as it is not in evidence in this verb class in ZEN.

Class B is subdivided into four classes based on the verb stem's initial consonant. Classes Bj and Bk take either no prefix or *ti-* in the POT with Bj taking *nga-* in the COMPL and Bk indicates the COMPL by prenasalization (and subsequent voicing) of the stem's initial *k*. Class By takes *ng-* in the COMPL, and *k*-in the POT. Class Bc verbs indicate the POT by laminalization of the stem's initial consonant and the COMPL prefix *ngo-*. Campbell's class Bt is not in evidence in Villard's classification, and cognates of that class's members are found in class Bc. It is important to note that Bt is distinguished from Bc in ZEN by the *ki-* POT prefix whereas ZAC Bc has lost this prefix entirely.

Class C appears much the same in ZAC as it did in ZEN, minus some distinction between the two sub-classes' PROG markers which is found in ZEN but not in ZAC. These vowel-initial stems take *k-* in the POT and either *ngo-*, *y-* or the doubly-marked *ngay-* in the COMPL.

6.3.2 Examples and Illustrations of Each Subclass

Table 36 gives some examples of each verb class in ZAC.

Table 36: Some examples of each verb class of ZAC

Class	gloss	stem	POT	PROG	HAB	COMPL
Au	burn it	takį$^{LR+}$	**ko**-takį^{XL}	**nda**-takį^{XXL}	**nd**-otakį^{XXL}	**nga**-takį$^{XLR+}$
	open it	sala^{MH}	**ko**-sala^{XLR}	**nda**-sala^{MMH}	**nd**-osala^{XLR+}	**nga**-sala^{MMH}
Ac	laugh	sityi^{MH}	**x**ityi^{LR+}	**nda**-sityi^{MMH}	**ndi**-xityi^{XLR}	**nga**-sityi^{MMH}
	fight	sǫ^{MH}	**x**ǫ$^{LR+}$	**nda**-sǫ^{MH}	**ndi**-xǫ$^{LR+}$	**nga**-sǫ^{MH}
A2	boil it	slakwi^{MH}	**xly**akwi^{MH}	**ndi**-xlyakwi^{MMH}	**ndi**-xlyakwi^{MMH}	**ngwi**-xlyakwi^{MMH}
	respond	sakwę$^{R+L}$	**x**akwę$^{R+L}$	**ndi**-xakwę$^{R+L}$	**ndi**-xakwę$^{R+L}$	**ngwi**-xakwę$^{R+L}$
Bj	ask for it	jinyą^{MH}	jinyą$^{LR+}$	**nda**-jinyą^{MH}	**ndi**-jinyą$^{LR+}$	**nga**-jinyą^{MH}
	hit it	jikwą7^{MH}	jikwą7^{LR+}	**nda**-jikwą7^{MH}	**ndi**-jikwą7^{LR+}	**nga**-jikwą7^{MH}
Bk	be lost	kona7^{MH}	**tyi**-kona7^{LR+}	**nda**-kona7^{MH}	**ndi**-kona7^{LR+}	**ng**ona7^{MH}
	be told	kitza7^{LR}	kitza7^{XX}	**ndi**-kitza7^{LR}	**ndi**-kitza7^{XX}	**ng**itza7^{LR}
By	wilt	y-aną^{MM}	**k**-y-aną^{MM}	**ndi-k**-yaną^{MM}	**ng**-y-aną^{MM}	**ng**-y-ana^{MM}
	open	y-ala^{MH}	**k**-y-ala^{LR+}	**ndi-k**-y-ala^{MH}	**ng**-y-ala^{LR+}	**ng**-y-ala^{MH}
Bc	go out	to7o^{LR}	**ty**o7o^{LR+}	**nda**-to7o^{MH}	**ndy**o7o^{LR+}	**ngo**-to7o^{LR}
	bless	nakwą^{MH}	**ny**akwą^{XX}	**nda**-nakwą^{MH}	**ndi**-nyakwą^{XX}	**ngo**-nakwą^{MH}
C	get wet	atza7^{LM}	**k**-atza7^{XX}	**ngy**-atza7^{LM}	**l**-atza7^{XX}	**ngo**-tza7^{LM}
	die	aja^{MM}	**k**-aja^{XX}	**ndi**-ja^{HX}	**ndi**-ja^{HX}	**ngo**-jwi^{MM}
C2	hold it	ala7^{XX}	**k**-ala7^{XX}	**ngy**-ala7^{HX}	---	**y**-ala7^{XX}
	sell it	ojwi7^{LM}	**k**-ojwi7^{LM}	**ngy**-ojwi7^{MM}	**nd**-ojwi7^{XX}	**nga-y**-ojwi7^{LM}

6.3.3 VOWEL HIATUS RESOLUTION HIERARCHY

Considering the evidence in Table (36), *o* > *i* (**nditakį*^{XL} 'burns it'), *i* > *a* (**ndaja*^{HX} 'it's dying'), *o* > *a* (**ngatza7*^{LM} 'it got wet') and other evidence, Villard constructs the VHRH for ZAC as *e* > *u* > *i* > *a,* with a contrast between *u* and *o* being impossible to elucidate given the *o/u* merger in non-final syllables, which of course, all Aspect prefixes are.

6.3.4 MORPHOPHONOLOGY

Villard, like Campbell, draws attention to the fact that the strict adherence to the vowel hierarchy would lead one to expect the *a*/*u* vowel clash to be resolved by the deletion of the *a* and not the deletion of the *u* which is exhibited both here and in ZEN (cf. ZAC *ngatakį*$^{LR+}$ **ngotakį*$^{LR+}$ and ZEN *nkatākę́* **nkutākę́* 'burned it').

There is evidence for regressive vowel harmony in the ZAC classification. If we consider the PROG forms of class Bk (Table 37), we can see that the PROG prefix for

some verbs is *ndi* and for others is *nda*. Another observation which can be made is that the verbs which take the PROG in *ndi* also have no prefix for the POT and those which have the PROG in *nda* have the POT prefix as *tyi*.

Table 37: POT and PROG forms of ZAC Class Bk

Gloss	Stem	POT	PROG
be scratched	kilya	kilya^{XX}	**ndi**-kilya^{HX}
be warned	kitza7	kitza7^{XX}	**ndi**-kitza7^{LR}
be cooled	ko7wa	tyi-ko7wa^{MM}	**nda**-ko7wa^{MM}
be lost	kona7	tyi-kona7^{LR+}	**nda**-kona7^{MH}
be softened	kotyi	tyi-kotyi^{LR+}	**nda**-kotyi^{MH}

This difference in Aspect morphology is conditioned by the first vowel of the verb stem. If this vowel is *i* as is the case for 'be scratched' and 'be warned' then the POT and PROG prefixes will be Ø and *ndi* respectively, otherwise these prefixes will be *tyi* and *nda*. While the vowel harmony is rather clear in the PROG prefix, it is harder to recover in the POT. Through a bit of internal reconstruction, we can presume that the Aspect prefix for this set of verbs that was received from the proto-language was *ki* like most Class B verbs in ZEN are, and that original forms of the POT of 'be warned' and 'be lost' were *ki-kilya* and *ki-kona7* respectively. In the first case, one of the *ki* sequences was deleted through haplology and in the second the velar of the prefix was changed into a laminal dental stop, presumably through dissimilation or velar fronting in the pre-high-front-vowel context.

This same inherited prefix *ki* would also be responsible for the laminalization found in the initial consonant of the POT Aspect of classes Bc, Ac and A2, providing a

conditioning environment for the laminalization of the consonant (apical coronals laminalize after *i*) before the prefix syllable is deleted entirely.

7. SYNTHESIS OF VERB CLASSIFICATIONS

This section will synthesize the findings of the four verb classifications considered here: PZP, ZEN, ZAC and TAT. The differences between the systems will be highlighted and a diachronic prespective will be taken where appropriate to discuss the creation of new verb classes and the drift of verbs from one verb class to another.

7.1 Renaming the TAT Verb Classification

Armed with the knowledge of these classifications and the etymological histories of TAT verbs, we can now rename and rearrange the verb classification of TAT according to its own morphology in (Section 4) to facilitate comparison with PZP, ZEN, and ZAC. Table 38 provides the correspondences between the classification based on the reconstructed ca. 1970 Aspect morphology and stem shape and the classification informed by knowledge of the etymologies of the TAT verbs. Note the diversification of the etymological class A into several groups according to the innovative POT prefixes in TAT and the blurring of the distinction between etymological classes A and B in TAT subclass Ki. The small set of *x*-initial subclass Kix verbs in TAT which formed a separate class due to their retention of the ki- prefix represent a small differentiation in etymological class Bc.

Table 38: Correspondences between TAT-internal and etymological classes

	*Ku-	Ø		*Ki-							*K-	
ca. 1970 class	Ku	S	X	Ngwi	Ki	Ki	Kix	L	K	Y	V1	V2
Etymological class	Au	As	Ax	A2	Ac	Bc	Bc	Bl	Bk	By	C	C2
	A					B					C	

7.2 Comparisons between Chatino and Zapotec

The largest differences exist between the PZP classification and the Chatino classifications: PZP has four classes, and the Chatino classifications have three major

classes, lacking PZP's Class D for want of replacive consonants. The VHRH of the PZP classification is also incompatible with the VHRH of the Chatino systems, as *a* dominates *i* in that system and *o* is found to dominate both *a* and *i*. The four VHRH are repeated below in Table 39. While the language of this current discussion about the VHRH may be seen as implying a productivity to these rules, it must be mentioned that there is no evidence that these hierarchies are currently used to resolve novel vowel hiatuses in any language mentioned here. It could very well be that the VHRH facts here might be better understood as the residue of a series of historic vowel deletion rules and not as a single gestalt process for hiatus resolution. This re-alignment of our understanding of the VHRH also allows for it to be systematically violated, as is seen in the COMPL of Class Au verbs in ZAC and ZEN.

Table 39: The VHRH

PZP	e > u, o > a > i
ZEN	e > u > i > a, o
ZAC	e > u > i > a
TAT	e, u > i > a
p-CHAT	e > u > i > a

While the VHRH which have been constructed for the Chatino languages each are incomplete in some way, the lacunae are for lack of historic evidence, and do not prohibit a reconstruction of the proto-Chatino VHRH as e > u > i > a in the absence of evidence to the contrary. The differences in the VHRH, specifically the relative reordering of *i* and *a* and (based on evidence from ZEN only) the demotion of *o* are likely of proto-Chatino inheritance.

7.3 Class A Across the Chatino Family

Class A is a large class of verbs in each Chatino language, and some interesting developments can be noticed in the peculiarities of the subclasses of each language. Table 40 shows the Aspect prefixes of each Class A across the Chatino Family.

Table 40: Aspect prefixes of Class A across the Chatino Family

	ZEN		ZAC			TAT				
	Au, Ac	A2	Au	Ac	A2	Au	As	Ax	Ac	A2
POT	ki-		ko-	[lam]		ku-	0	0	[lam]	ki, [lam]
PROG	nte-		ndi-			ndy-	n- [lam]	n-	n [lam]	ndy-
HAB	nti-		nda-			nd-	n-	n-	n-	n-
COMPL	nka-	nkwi-	nga-		ngwi-	ngu-		n-	ngu-	ngwi-

First, one will notice that the COMPL in TAT is divergent from the rest of the family, as TAT does not have *nga-* as a Class A prefix. This is likely an innovation in TAT since one would not expect both ZEN and ZAC to innovatively and independently break their own VHRH in exactly the same position. We can then assume that p-CHAT's Class A had a *nka-* COMPL and the *ngu-* COMPL of TAT is due to analogical leveling, as many Class B and C verbs share *ngu-* as their COMPL prefix (Table 41). Interestingly the expected reflex of the PZP COMPL prefix **kwe-* reconstructed by Kaufman, is only found in subclass A2.

Table 41: The *ngu-* ~ *nga-* correspondence in COMPL Aspect prefixes

Gloss	Class	ZEN	ZAC	*TAT
opened it	Au	nka-sana	nga-sala^{MH}	*ngu-salà
screamed	Ac	nka-xa7a	nga-si7ya	*ngu-si7ya
fought	A	nka-soǫ	nga-sǫ^{MH}	*ngu-sǫ
ran	B	---	nga-suna	*ngu-sná
went around	B	nku-ta7ą	nga-ta7ą	*ngu-ta7á
was born	C	nku-la	ngo-la	*ngu-lá
got wet	C	nku-tza7	ngo-tza7^{LM}	*ngu-tzà7

We can also see that the deletion of a *ki-* prefix from Ac verbs is a Coastal Chatino innovation, with only the laminalization of the stem consonant as the residue of the deleted prefix. Class A2 with its unusual prefix (*nkwi-* or *ngwi-*) is also in evidence across the family, but its membership is small in each language, and prefix vowel syncopation in TAT along with the *ngu-* COMPL prefix has meant that that Class A2 is identical to Class Ac for verbs with laminalized or unlaminizable stems. That is, the product of *ngwi-* and *ngu-* after the syncopation of the prefix vowel would leave only a prenasalized velar stop and laminalization or labialization, respectively of the root consonant. Since laminalization only can be witnessed on apical coronals, and labialization on velars, the residue of these COMPL prefixes after syncopation cannot be teased apart for many verbs with root consonants like *x, j, ch, ly, ty, p, w,* and *kw,* and there is a partial merger of the two verb classes.

7.4 Class B Across the Chatino Family

Class B is also present in all Chatino languages in this study, though various morphophonemic processes have brought about the creation of multiple new classes in ZAC and TAT. One very stable class across the family is Class By, whose Aspect

prefixes may differ from language to language, but which nonetheless are clearly delimited. Table 42 shows the Aspect prefixes for each subclass of Class B in the three languages.

Table 42: Class B Across the Chatino Family

	ZEN			ZAC				TAT			
	Bc	Bt	By	Bj	Bk	Bc	By	Bc	Bk	Bl	By
POT	ki	[lam]	ch	0, ti-		[lam]	k-	[lam]	0, ty	k [lam]	ty
PROG	nte			ndi			ng-	ndy-		ng [lam]	ndy
HAB	nti	n-[lam]	nch	nda-			ndi-k-	nd		ng	ndy
COMPL	nku		nk	nga-	n-	ngo-	ngy-	ngu-	n-	ngu	ndy

Some of these verbs may be better analyzed as Class A, as can be seen in the *nga-* prefix in ZAC Class Bj. The members of that class are *jinyą* 'ask for', *jigwi* 'whistle' and *jikwą7* 'hit it'. 'Ask for' in ZEN is clearly a Class Au verb *kunana*, and in TAT this same verb is a POT prefix-less member of Class As *jnyà*. 'Whistle', likewise is a ZEN Class Au verb *kujáwi* but in TAT it shows up as a By verb *tyjwi*, though the first root vowel has syncopated in all forms and is irretrievable, and any non-syncopated instances of this verb may revise whistle‘s position in the verb classification. A ZEN cognate of ZAC *jikwą7* and TAT *jyakwą7* (a Class As verb) has not been found yet, though given the examples of whistle and ask for, we could expect to find another Class Au ZEN verb (? *kukwą7*) as its cognate.

The Bk COMPL prefix could, in fact, be analyzed as coming from the syncopation of a *nga-* prefix (thus TAT ***nga-kuná7* → *ngkuná7* → *nguná7* ‘got lost‘), though these verbs are not prototypical Class A verbs since they are generally not transitive.

Note that Class Bc has a *ki-* prefix in ZEN but this prefix has been lost in Coastal Chatino, with only the laminalization left to mark the POT prefix, much like what has happened with Class Ac.

The Class Bk with its *n-* COMPL and null or *ty-* POT prefixes appears to be an innovation of Coastal Chatino. The cognates for these verbs in ZEN are compound verbs with the Class A2 verb *ke-*. The *ty-* prefix is likely a dissimilation of the two velar stops (i.e. ZAC 'will be cooled' **ki-ko7wa^{MM}* → *tyiko7wa^{MM}*). In ZAC, the prefix is deleted based on the stem vowel; that is, the prefix will be deleted if the first stem vowel is *i*. In TAT, this prefix deletion is also present, though apparently somewhat variable. For example, Pride and Pride lists 'will get lost' as *cuna'* without the laminalized coronal prefix, yet in my data gathered in 2009 and 2010, the prefix is in evidence, *tykunà7*.

7.5 Class C Across the Chatino Family

The most stable major verb class across the three Chatino languages studied is Class C, which has vowel-initial roots, a velar POT prefix and two subclasses divided according to COMPL prefix. Table 43 shows the Aspect prefixes for each subclass of Class C in the three languages. Note that the seemingly lexically-conditioned double marking of the COMPL of Class C2 in ZEN and ZAC has been leveled out in TAT, where all C2 COMPL are marked by the reflex of the double-marked Aspect prefix (i.e. the syncopation of the prefix vowel in **ngay-* would lead to a **ngy-* sequence which regularly is realized in TAT as a laminalized dental *ndy-*).

Table 43: Class C Across the Chatino Family

	ZEN		ZAC		TAT	
	C	C2	C	C2	C	C2
POT	k-		k-		k-	
PROG	nte-		nda-		ndy-	
HAB	nti-		ndi-		ndi-	
COMPL	nku-	(nka)-y-	ngo-	(nga)-y-	ngu-	ndy-

Table 44 demonstrates this class stability, as each instance of a verb listed as class C or C2 is provided in the table along with its cognate in the other two languages. Verbs are cited in their COMPL to more easily demonstrate their membership in Class C (whose Aspect marker is **nku-*) or Class C2 (whose Aspect marker is **(nka-)y-*). The few mismatches, 'dance' 'rot' and 'leak' are potentially cases where TAT speakers may have chosen to use a different member of the transitivity pair to express the action or are instances of genuine modifications of the morphological class of the verbs in question.

Table 44: Verbs of Classes C and C2 across the Chatino language

Gloss	*TAT	TATc	ZAC	ZACc	ZEN	ZENc
Class C Verbs (COMPL *_nku-_)						
be born	ng-ulá	C	ng-ola^{XX}	C	nk-ula	C
die	ng-ujwì	C	ng-ojwi^{XX}	C	nk-ujwi	C
be	nkwa	C	ngwa^{XX}	C	nku-ka	C
cook	ng-uke7	C	ng-oke7^{LR}	C	nk-uke7	C
leak (drip)	ndy-ukwa7	By	ngo-kwa7^{LR}	C	nku-kwa7	C
grow	ng-ulú	C	ng-olo^{MH}	C	---	
get wet	ngu-tzà7	C	ngo-tza7^{LM}	C	nku-tza7	C
explode	ngu-tzù	C	ngo-tzo^{MM}	C	nku-tzu	C
Class C2 Verbs (COMPL *_(nga-)y-_)						
dress	ndy-akù7	C2	ngay-ako7^{LM}	C2	---	
vomit	ndy-akwẹ̀	C2	ngay-akwẹ^{LM}	C2	nkay-akwẹ	C2
kill it	ndy-ujwì	C2	ngay-ojwi^{XL}	C2	nkay-ujwi	C2
cry	ndy-una	C2	ngay-ona^{LM}	C2	nkay-uná	C2
dance	ngu-la	C	y-ola^{XX}	C2	y-ula	C2
grind it	ndy-oò	C2	y-o^{XX}	C2	nkay-o	C2
sell it	ndy-ujwì7	C2	ngay-ojwi7^{LM}	C2	y-ujwi7	C2
eat it	ndy-aku	C2	y-ako^{XX}	C2	y-aku	C2
hold it	ndy-ala7	C2	y-ala7^{XX}	C2	nkay-ala7	C2
drink it	ndy-o7o	C2	---		nkay-o7o	C2
listen to it	ndy-unà	C2	y-ona^{MM}	C2	y-una	C2
rot	ndy-akwi	C2	---		nku-kwi	C
bathe	ndy-ata	C2	ngay-ata ~ y-ata^{M}	C2	y-ata	C2
fear	ndy-utzẹ́	C2	---		nkay-utzẹ ~ y-utzẹ	C2

8. CONCLUSIONS

This work has demonstrated that the Aspect prefix morphology of the verbs of Tataltepec de Valdés Chatino as found in a 1970 dictionary form three major classes which are cognate with the verb classes found in Zenzontepec Chatino and the Eastern Chatino of San Marcos Zacatepec. Where these verb classes differ, historical explanations have been offered. The verb classification schemes of Campbell and Villard for ZEN and ZAC, respectively have been corroborated and this classification will allow for a better understanding of the verbal system of proto-Chatino now that all members of the language family have had their verbs so analyzed.

Since this work was based on a dictionary which was compiled some time ago, and the current state of the language has proven all too variable, the next course of study is to investigate the phonological deletions and reductions which are obscuring the verb morphology of the language as it is spoken today.

References

Beam de Azcona, Rosemary. 2004. *A Coatlan-Loxicha Zapotec Grammar*. Ph.D. Dissertation, UC Berkeley.

Boas, Franz. 1913. Notes on the Chatino Language of Mexico. *American Anthropologist*, New Series, Vol. 15, No. 1, (Jan. - Mar., 1913), pp. 78-86.

Campbell, Eric. 2008. Shoebox database of Zenzontepec Chatino lexemes. Ms.

———. 2011*a*. Zenzontepec Chatino Aspect Morphology and Zapotecan verb classes. *International Journal of American Linguistics.* vol. 77 no. 2 pp. 219-246

———. 2011*b*. The Internal Diversification and Subgrouping of Chatino. Ms. University of Texas at Austin

Campbell, Eric and Anthony C. Woodbury. 2010. The comparative tonology of Chatino: A prolegomenon. *Society for the Study of the Indigenous Languages of the Americas*

Cruz, Emiliana, Hilaria Cruz, and Anthony C. Woodbury. 2007. Consonantes en el Chatino de San Juan Lachao: Ejemplos. [internet]. http://www.ailla.utexas.org: Archive of Indigenous Languages of Latin America.

———. 2010. Cha7^{3} tnya^{24}: Diccionario del idioma chatino variante de San Juan Quiahije. Ms. University of Texas at Austin, http://sites.google.com/site/lenguachatino/recursos-pedagogicos/san-juan-quiahije

Cruz, Hilaria, and Anthony C. Woodbury. 2006. La fonología y tonología comparativa del Chatino: un informe de campo en Zacatepec. In *Las memorias del Congreso de Idiomas Indígenas de Latinoamérica-II*. Archive of the Indigenous Languages of Latin America, http://www.ailla.utexas.org/site/cilla2_toc.html.

INEGI. 2005. *II Conteo de población y vivienda, consulta interactiva de datos.* Instituo Nacional de Estadística y Geografía: México. http://www.inegi.org.mx/sistemas/olap/proyectos/bd/consulta.asp?p=10215&c=16851&s=est# [Accessed 13 September, 2010]

———. 2009. *Perfil sociodemográfico de la población que habla lengua indígena*. Instituto Nacional de Estadística y Geografía: México.

Kaufman, Terrence. 1987. Otomanguean Tense/Aspect/Mood, Voice, and Nominalization Markers. Ms.

———. 1993. Proto Zapotec(an) Reconstructions. Ms.

Lyman Boulden, Hilario. 2010. *Gramática popular del zapoteco de Comaltepec, Choapan, Oaxaca*. SGLIM 10. México: ILV.

McIntosh, Justin. 2009. Los tonos del Chatino de Santa Lucía Teotepec. *Proceedings of the Conference on Indigenous Languages of Latin America* (CILLA), Teresa Lozano Long Institute of Latin American Studies at the University of Texas at Austin. To appear.

Pride, Kitty and Leslie Pride. 2004. *Diccionario Chatino de la Zona Alta*. ILV: México, D.F.

Pride, Leslie and Kitty Pride. 1970. *Vocabulario Chatino de Tataltepec*. ILV: México, D.F.

Pride, Leslie. 1979. Rerecordings of tone patterns. *Chatino Collection*. The Archive of Indigenous Langauges of Latin America: www.ailla.utexas.org
———. 1984. Tone and contrast on the penultimate syllable.
Rasch, Jeffery. 2002. *The Basic Morph-Syntax of Yaitepec Chatino*. Ph.D. Dissertation. Rice University.
Rasch, Jeffery and Martín Suárez Martínez. 2008. Volantes Chatinos: Propuestas sobre la escritura del Chatino de Santiago Yaitepec. http://sites.google.com/site/lenguachatino/recursos-pedagogicos/santiago-yaitepec
Smith-Stark, Thomas C. 2002. Las clases verbales del zapoteco de Chichicapan. In *Encuentro Internacional de Lingüística en el Noroeste*. (6th: 2000: Hermosillo, Mexico). Hermosillo, Sonora: Editorial Unison 2002. pp 165-212.
Sullivant, John Ryan, and Anthony C. Woodbury. 2009. El tono y el sandhi de tono en el chatino de Tataltepec. In *Las memorias del Congreso de Idiomas Indígenas de Latinoamérica-IV*. Archive of the Indigenous Languages of Latin America, http://www.ailla.utexas.org/site/cilla4_toc.html.
Sullivant, John Ryan. 2010. Lista de palabras en tres lenguas. 2nd ed. [Tataltepec Chatino lexicon]. Ms. University of Texas at Austin.
Villard, Stéphanie. 2008. Los tonos del chatino de San Marcos Zacatepec. *Proceedings of the Conference on Indigenous Languages of Latin America-III*. Organized by the Center for Indigenous Languages of Latin America (CILLA), Teresa Lozano Long Institute of Latin American Studies at the University of Texas at Austin. http://www.ailla.utexas.org/site/cilla3_toc.html (Accessed 6 January 2008).
———. 2009. Diccionario del idioma chatino: Variante de San Marcos Zacatepec. http://sites.google.com/site/lenguachatino/recursos-pedagogicos/san-marcos-zacatepec
———. 2010. Zacatepec Chatino verb classification and aspect morphology. In *Las memorias del Congreso de Idiomas Indígenas de Latinoamérica-IV*. Archive of the Indigenous Languages of Latin America, http://www.ailla.utexas.org/site/cilla4_toc.html.
Woodbury, Anthony C. 2008. *Tone in SJQ Chatino verb inflection for person and number*. Manuscript. University of Texas at Austin. http://sites.google.com/site/lenguachatino/recursos-academicos
———. 2009. On the internal classification of Chatino. Manuscript. University of Texas at Austin.